# Missions and Means Framework Tutorial

## March 1, 2004

# Agenda

- **Introduction**
- **ACSIS Example**
- **Missions & Means Framework**
- **Transformation**

# Context

- **A Blizzard of Guidance:**
  - **Rumsfeld, “Transformation Planning Guidance”, April 2003**
  - **Wolfowitz, “Operation of the Defense Acquisition System”, DoD 5000.2, May 2003**
  - **Wolfowitz, “Department of Defense Readiness Reporting System”, DoD Directive 7730.65, June 2003**
  - **Myers, “Joint Capabilities Integration and Development System”, CJCSI 3170.01C, June 2003**
  - **Wolfowitz, “DoD Architecture Framework”, Version 1, coordination draft DoD Instruction 8800.x, March 2003**
  - **Daly, Miller, Seglie, and Wauer, “The Test and Evaluation Master Plan, an Operational Overview”, ITEA Journal, September/October 2003.**
  - **Hollis and Bolton, “Future Combat Systems and Complementary Systems Coordination”, Department of the Army, November 2003.**

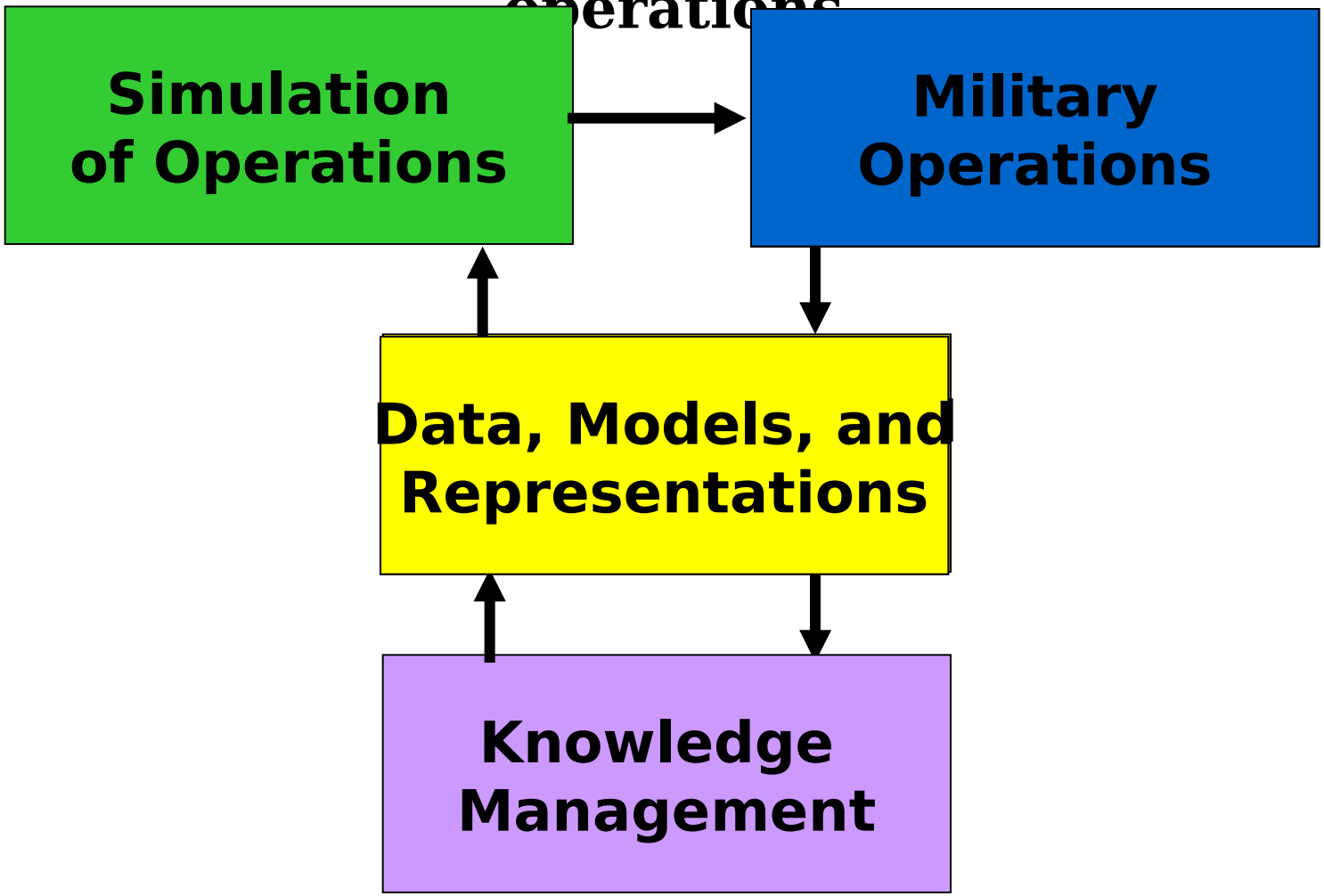
# *** Opinion ***

- **In the post-9/11 World:**
  - **The United States needs the capability to**
    - **Counter new, emerging concepts and threats while**
    - **Retaining the overmatch to deter existing, conventional capabilities.**
  - **Relative to extant U.S. warfighting capabilities, this requires:**
    - **Strategic agility in hours/days, not weeks/months;**
    - **Joint netted lethality in close combat; and**
    - **Combined and noncombatant survivability in complex terrain.**
  - **To achieve national security objectives over the long haul:**
    - **The suitability of total DOTMLPF solutions (life-cycle ownership) and**
    - **The time to field capabilities must improve.**

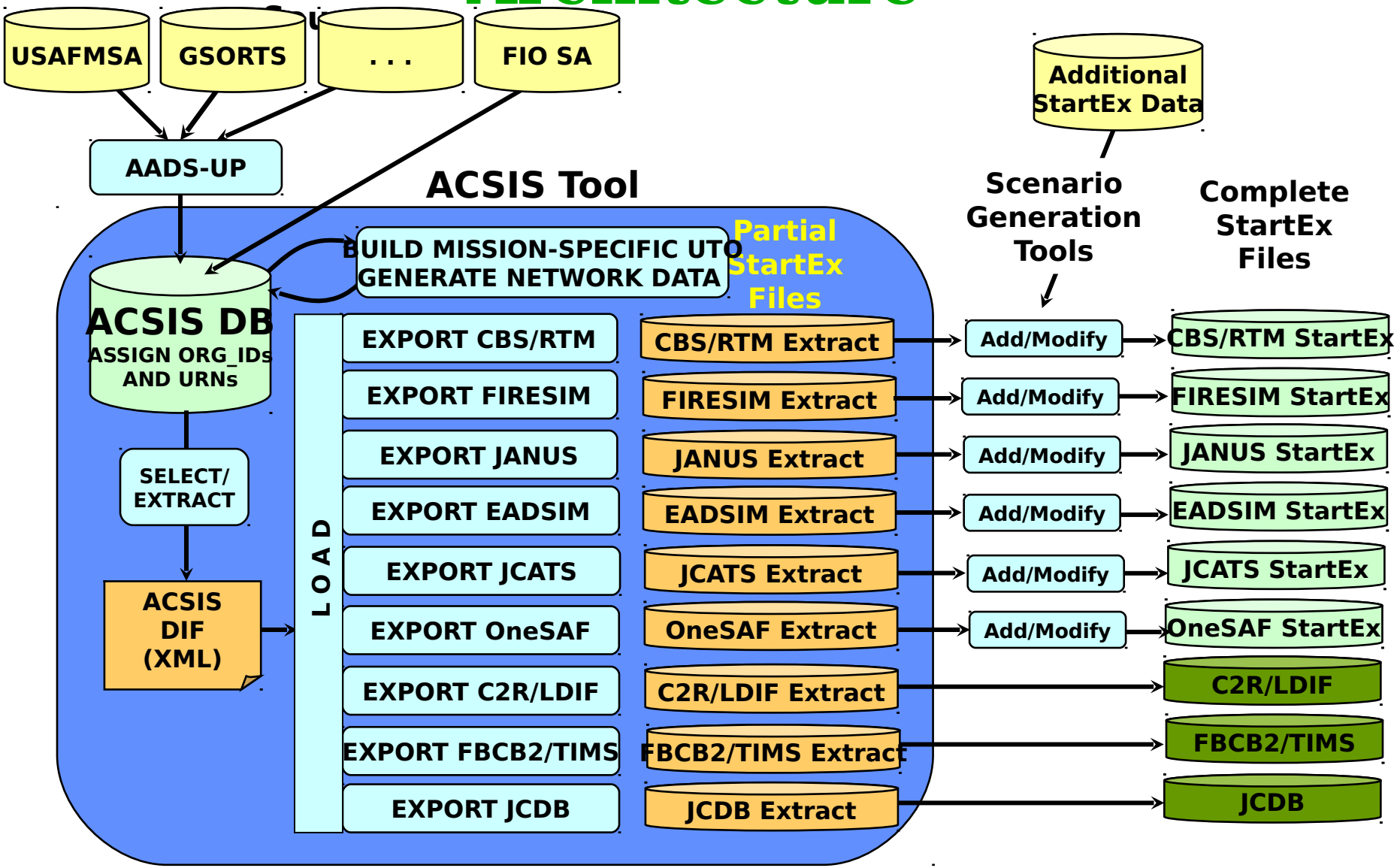
# Agenda

- Introduction
- ACSIS Example
- Missions & Means Framework
- Transformation

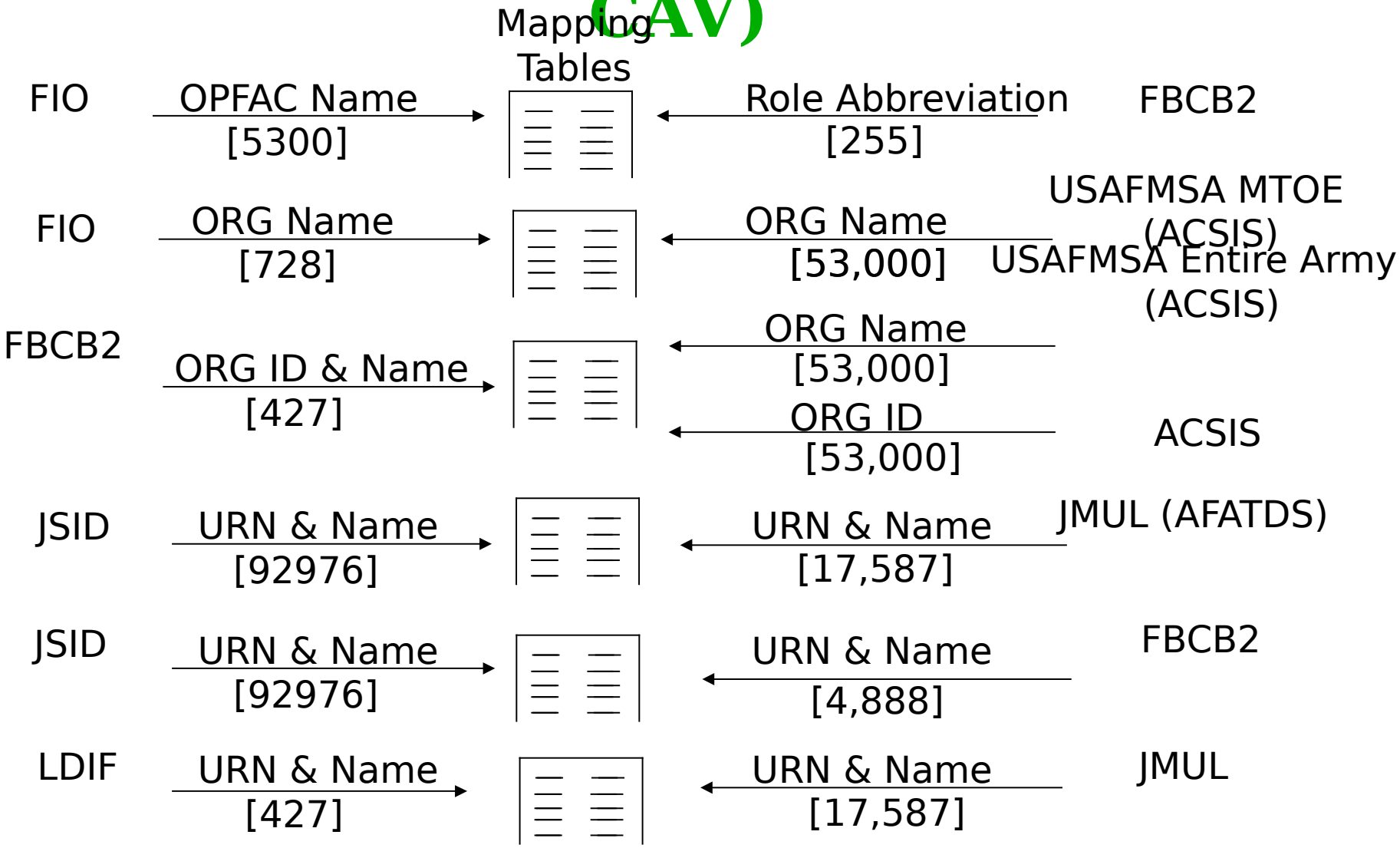
# Information-Intensive Warfare, Digitization of the Battle
# blurs distinctions between simulations and operations



# ACSIS§ Architecture



# Interoperability Examples (1st CAV)



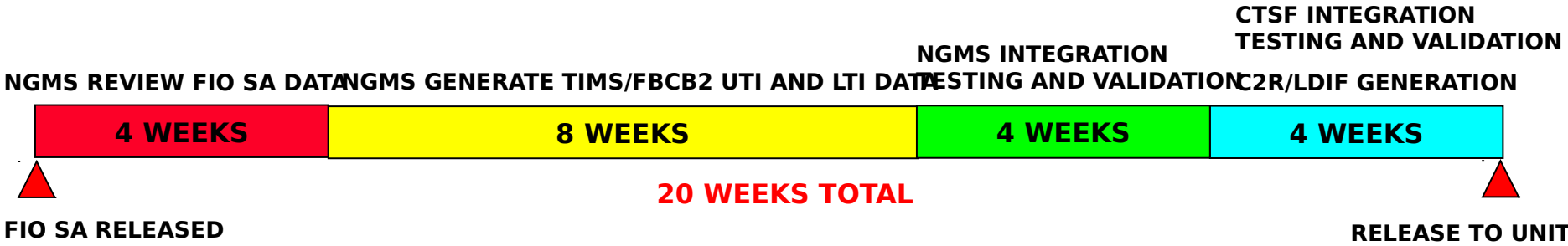

***Notes:*** ■ **Not a do once use many**

■ **Eliminate**

**Source: Frank Pozio, Symbolics**

# Improved Integration and Interoperability between C4I and Simulations

**Current data product generation process without ACSIS or FBCB2/TOC Planner:**




**Process with ACSIS Phase I, TIMS/ACSIS interface, and FBCB2 manual process:**

**PM FBCB2 and TIMS early involvement with FIO, G-6, USAFMSA, and the unit at the SA Material Review Board (MRB). Shifts weeks of review/fixes to before the SA release.**

**Process with ACSIS Phase II and FBCB2/TOC Planner Integration:**

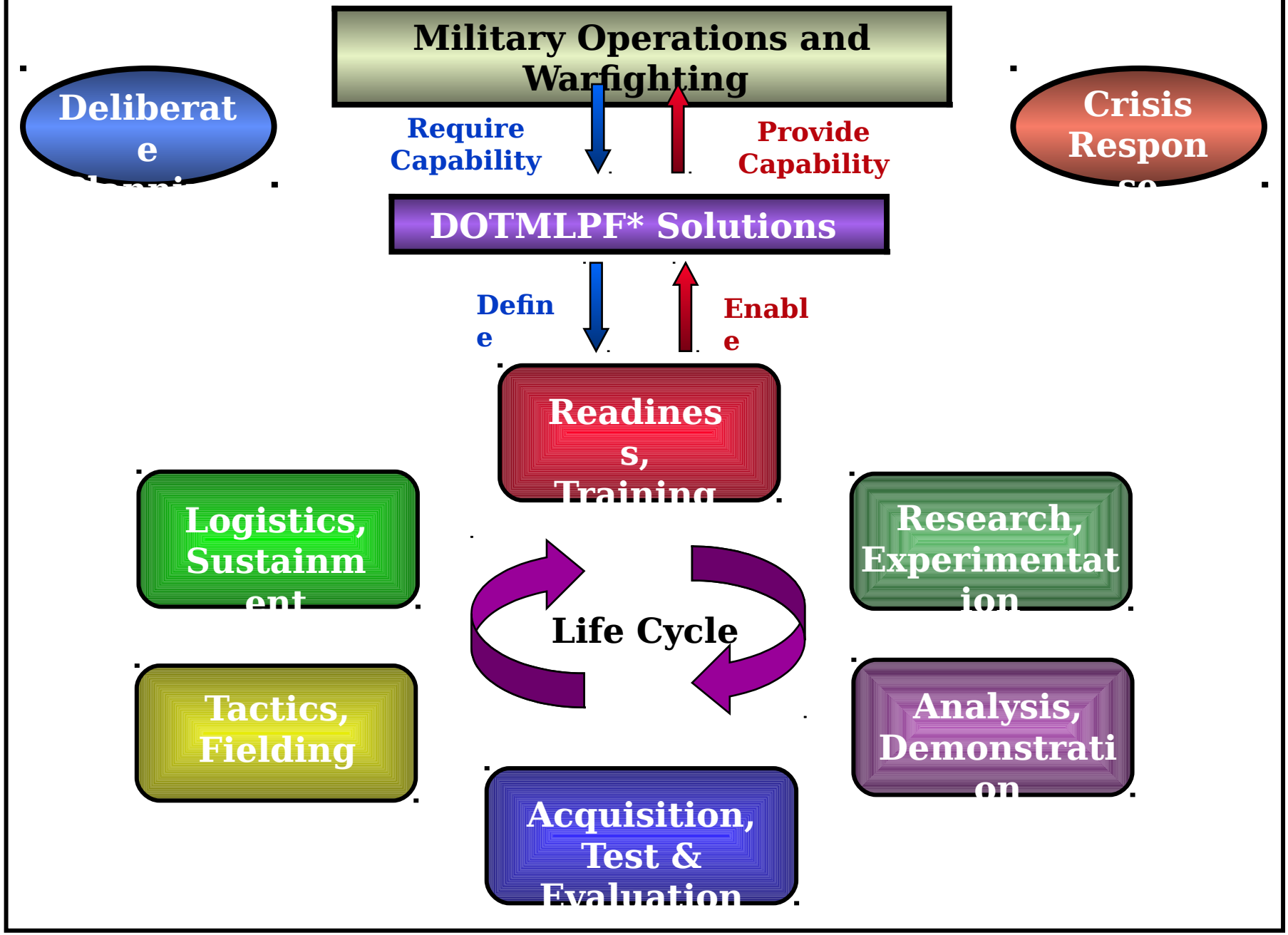
- **Process improvement- reduce time and cost.**
- **Improved coordination and synchronization.**
- **Data harmonization in a single-source authoritative database.**
- **Improved feedback to authoritative data sources.**
- **Automation to enforce rules and data integrity- quality data products.**
- **Less re-work time and cost.**
- **More responsive to ad-hoc changes.**

# Agenda

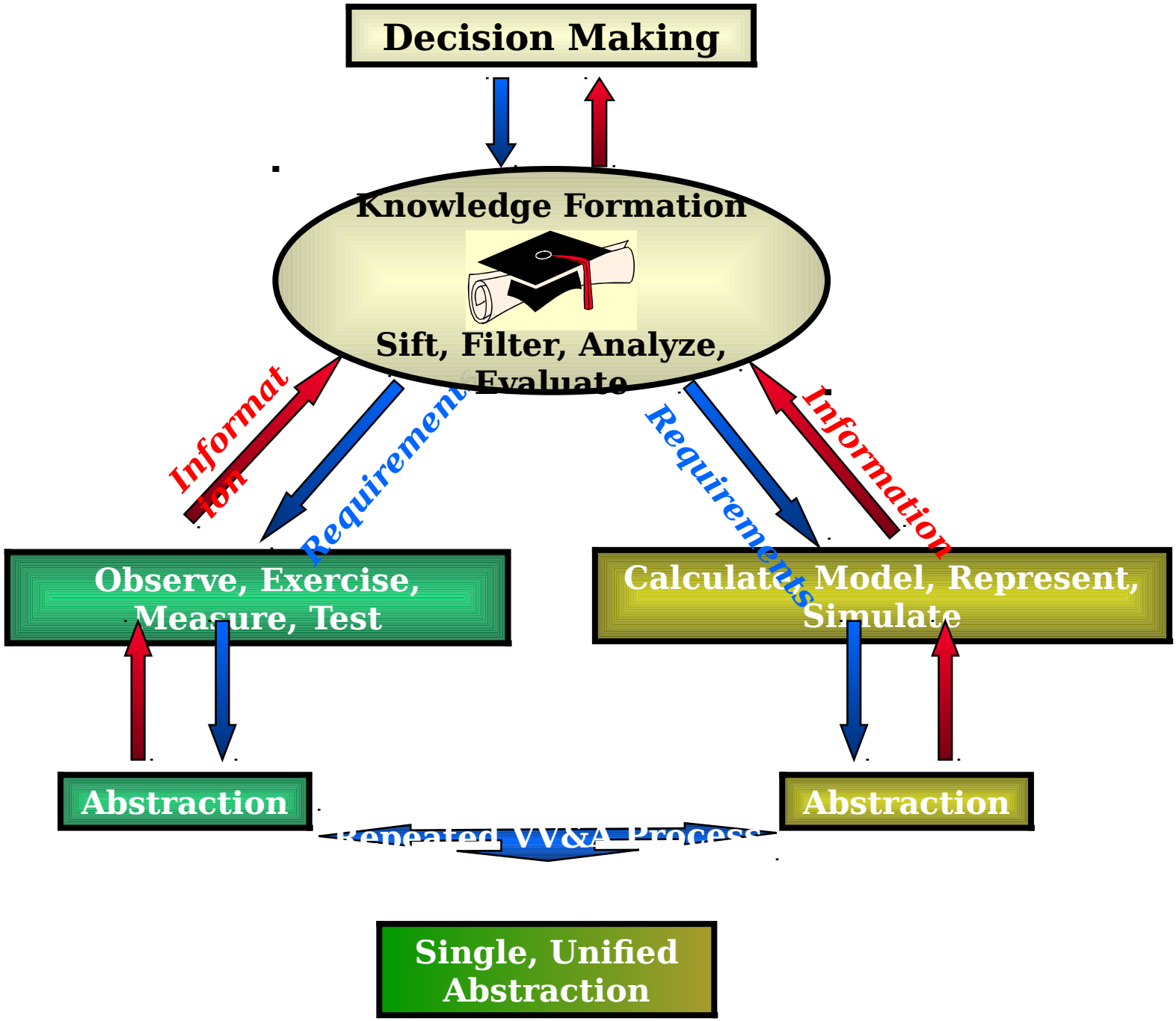
- **Introduction**
- **ACSIS Example**
- **Missions & Means Framework**
- **Transformation**
- **Discussion**

# Key Concepts

- **The Principle of Late Binding is a fundamental element of the transformed end-state.**
- **Integration Readiness is fundamental to Late Binding in Joint Operational Concepts**
- **The Missions and Means Framework (MMF) embraces Late Binding to specify the warfighter's view of the battle space.**
- **Executable Mission Content (EMC) is a key enabler to conceive and execute transformation.**




* DOTMLPF: Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities


Decision Making
Knowledge Formation
Sift, Filter, Analyze, Evaluate
Information
Requirements
Requirements
Information
Observe, Exercise, Measure, Test
Calculate, Model, Represent, Simulate
Abstraction
Abstraction
Repeated V&V&A Process
Single, Unified Abstraction

# To Make It Work …Need Five Things

1. **Composable Framework and supporting Procedures**

2. **Critical Mass of End-User Content and supporting Access**

3. **Business Model for Life-Cycle Sustainment and supporting Program Elements**

4. **Tools, Utilities and supporting Standards**

5. **Education, Training, and Certification**

# MMF Status Summary

**Accomplishments:**

- **TRADOC ADCST-W Collective Training Directorate (CTD): Task decomposition for CFLCC Battle Drills**
- **Army C4ISR and Simulation Initialization System Interoperable data loads for Operations Enduring and Iraqi Freedom**
- **Army Objective Force: Mission set decomposition in FCS O&O/ORD, ATEC adoption**
- **Joint Strike Fighter: JSF Authoritative Modeling Information System, Authoritative Sources DB**
- **DoD Architecture Framework: Core Architecture Data Model, Data Architecture Repository Sys, Visual Simulation Objects**

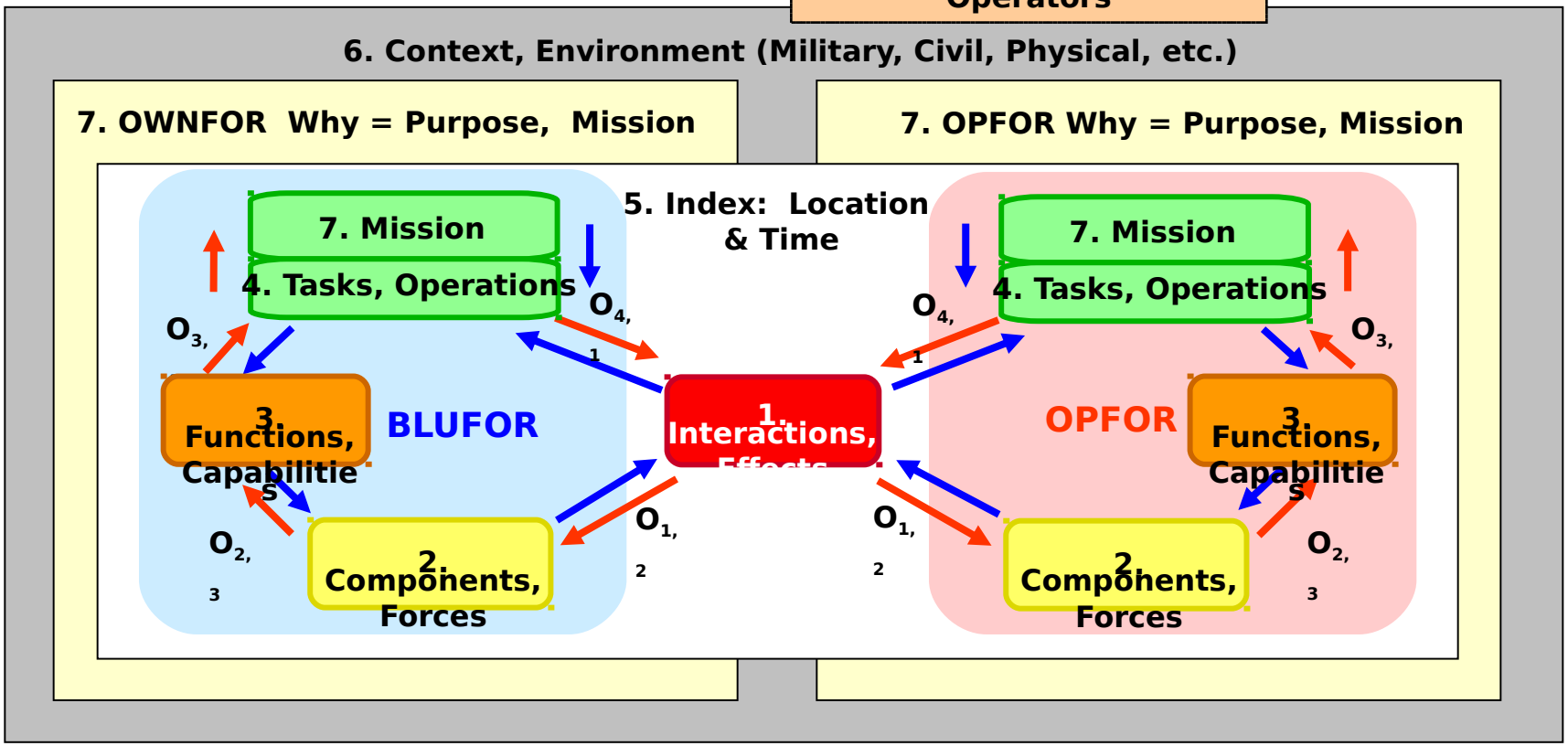
**In Progress:**

- **Joint Staff: 5026 mission decomposition, Joint Training Information System acquisition baseline**
- **Strategic Analysis: MORS Data Workshop, OSD/Policy workshop, JMEM and TMAP in Joint Data System**
- **Mission and Means Framework for Executable Mission Content: Paired Comparison Tests, UA-MBL Experimentation, NAVAIR/AMC MOA, JFT&E**

# Missions and Means Framework

11 Fundamental Elemen

Seven Levels, Four Operators




Planning

Employment

# Missions and Means Framework

11 Fundamental Elements

Seven Levels, Four Operators

**7. OWNFOR Why = Purpose, Mission**

**7. OPFOR Why = Purpose, Mission**

## 7. Why, Wherefore, to What End

# Missions and Means Framework

11 Fundamental Elements

Seven Levels, Four Operators

6. Context, Environment (Military, Civil, Physical, etc.)

7. OWNFOR Why = Purpose, Mission

7. OPFOR Why = Purpose, Mission

## 6. Under What Circumstances

# Missions and Means Framework

11 Fundamental Elements

Seven Levels, Four Operators

6. Context, Environment (Military, Civil, Physical, etc.)

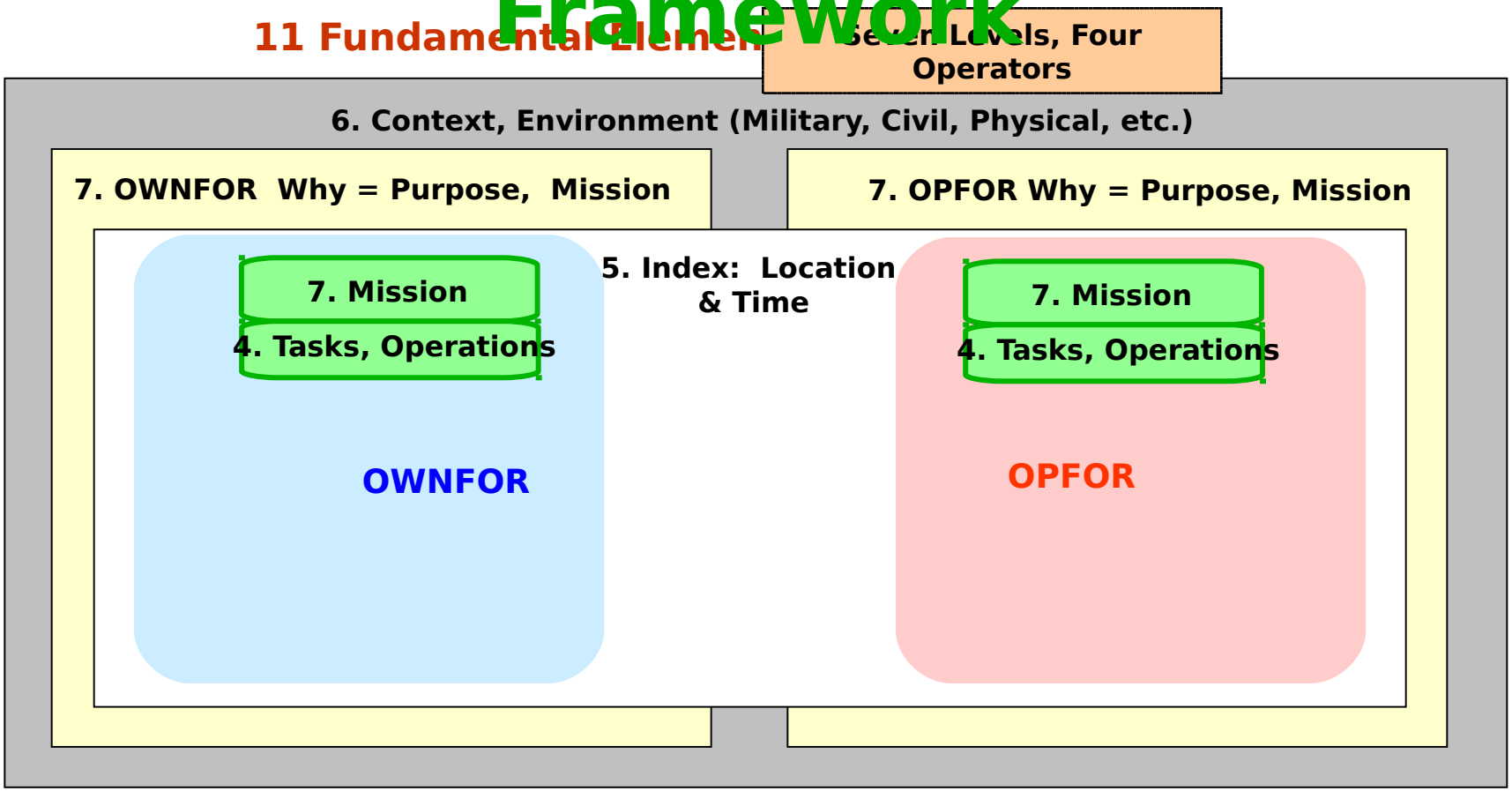
7. OWNFOR Why = Purpose, Mission

7. OPFOR Why = Purpose, Mission

5. Index: Location & Time

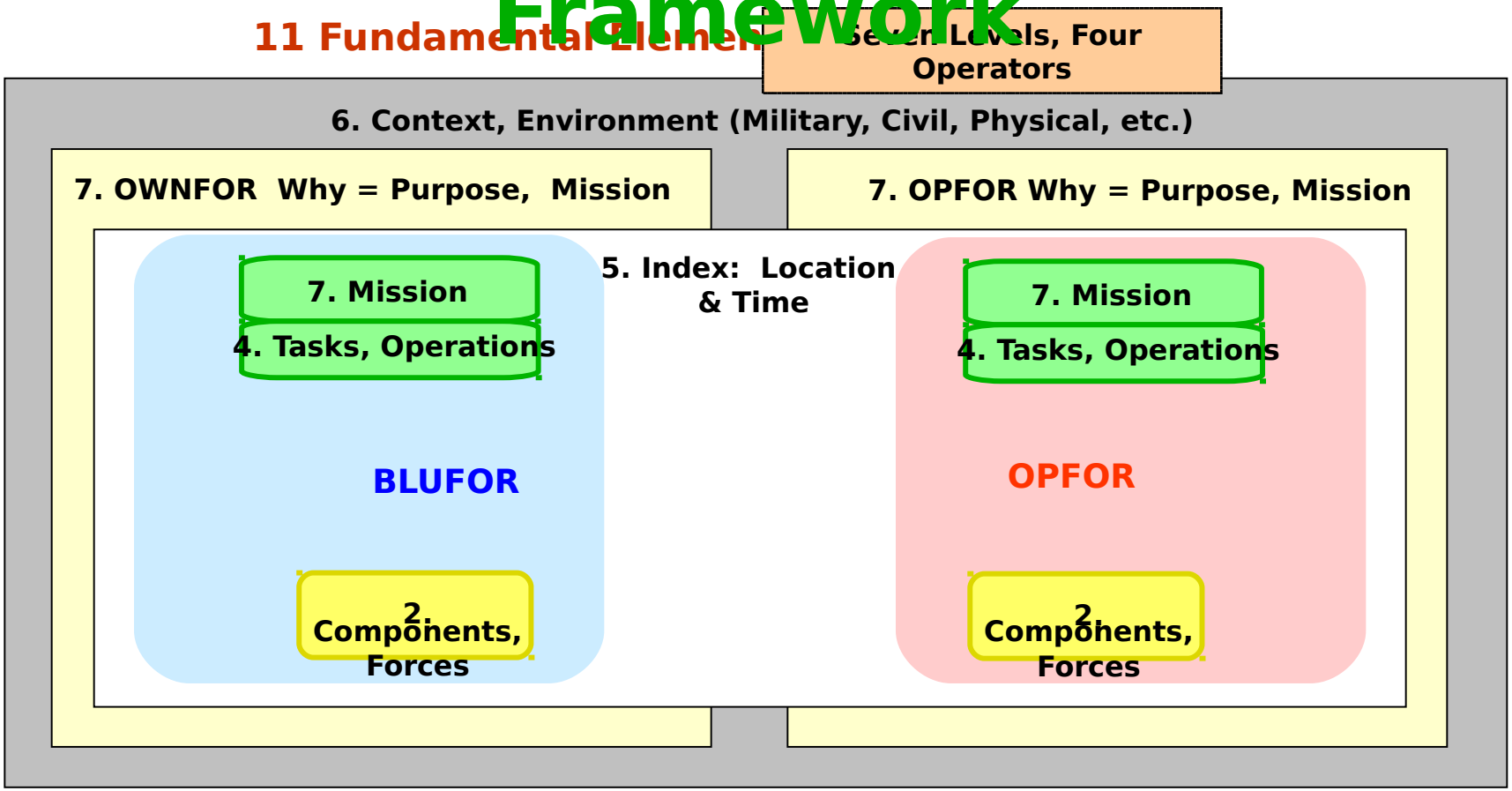
## 5. When and Where

# Missions and Means Framework



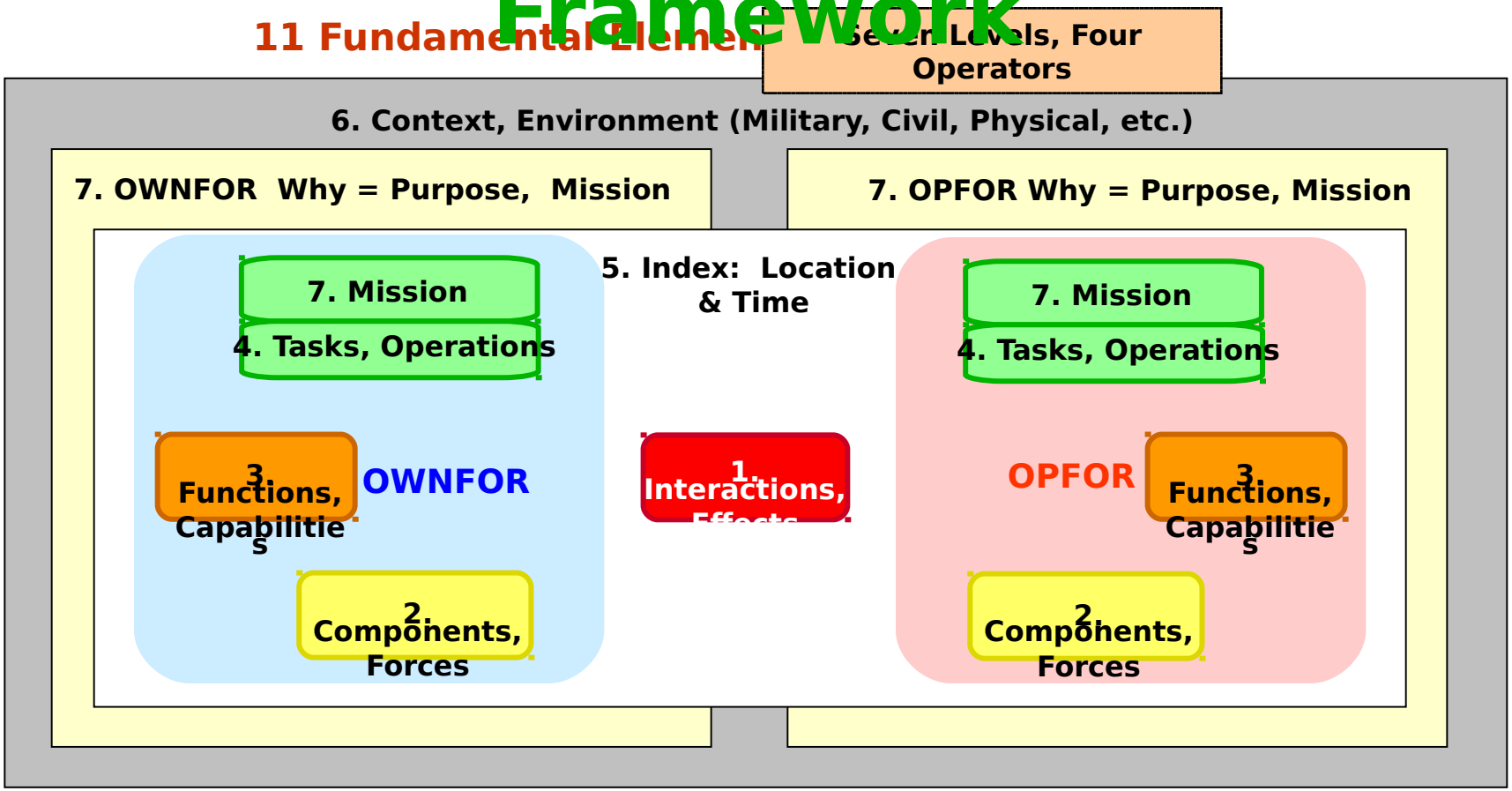

**4. Activity-centric, named with a Verb, "Do What" -- the Playbook**

# Missions and Means Framework




## 2. Entity-centric, named with a Noun "By Whom" -- the Players

# Missions and Means Framework

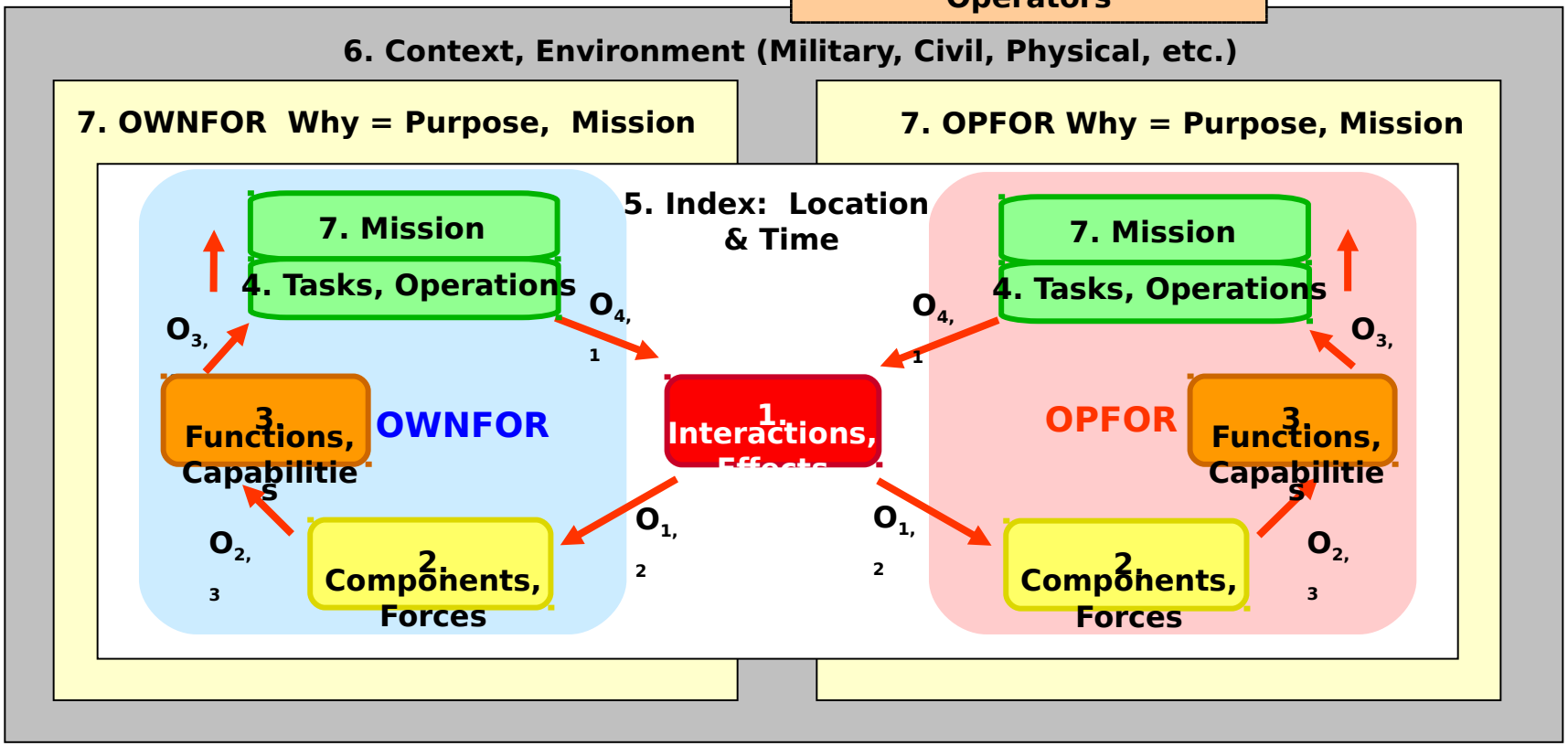



1. The (shared) Slings-and-Arrows of Outrageous Fortune -- Science
3. Condition-dependent "How Well" -- Engineering

# Missions and Means Framework

11 Fundamental Elements

Seven Levels, Four Operators

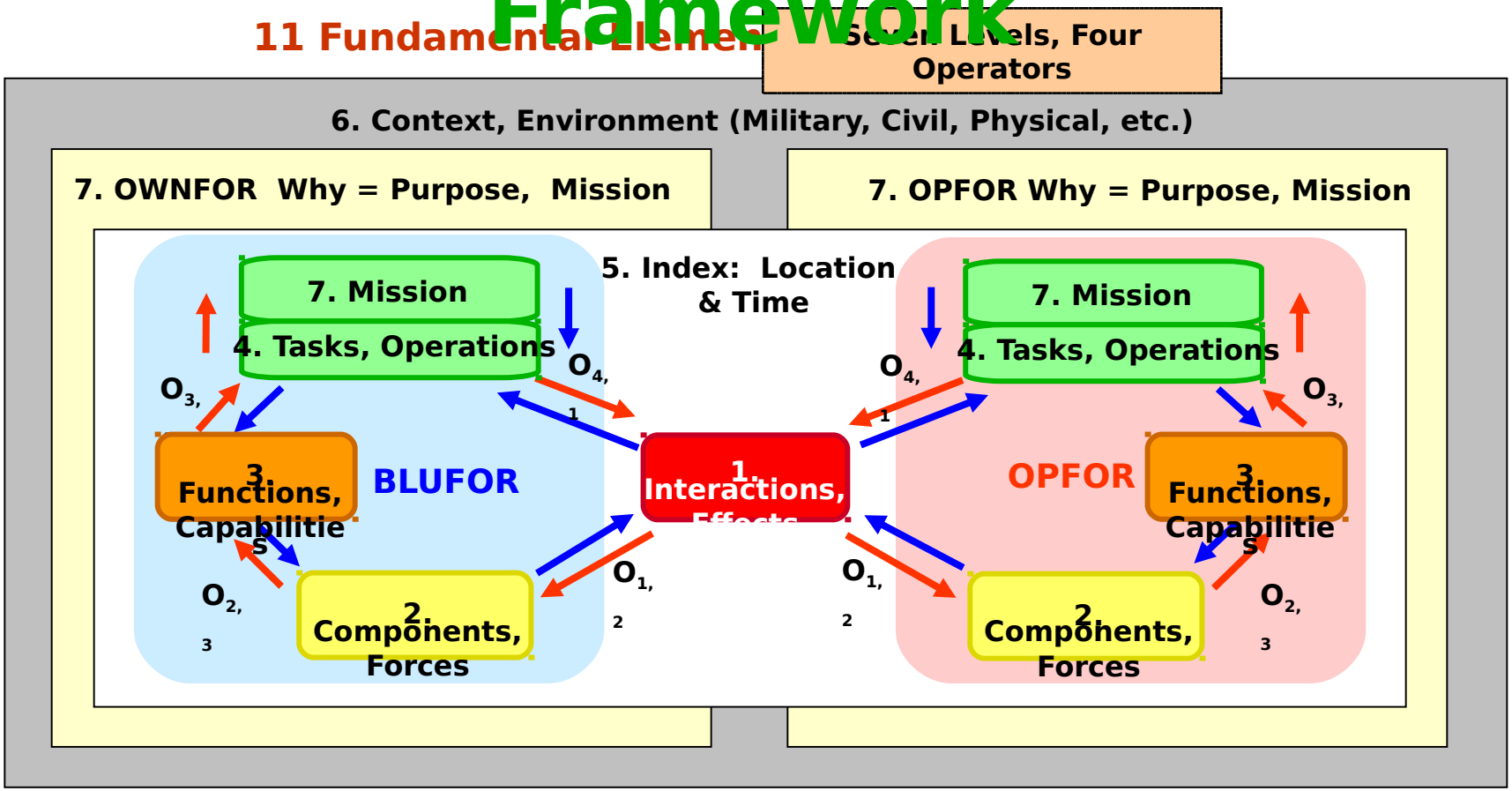



Planning

Employment

**Bottom-up, Causal, Time-forward execution and adjudication of outcomes**

# Missions and Means Framework

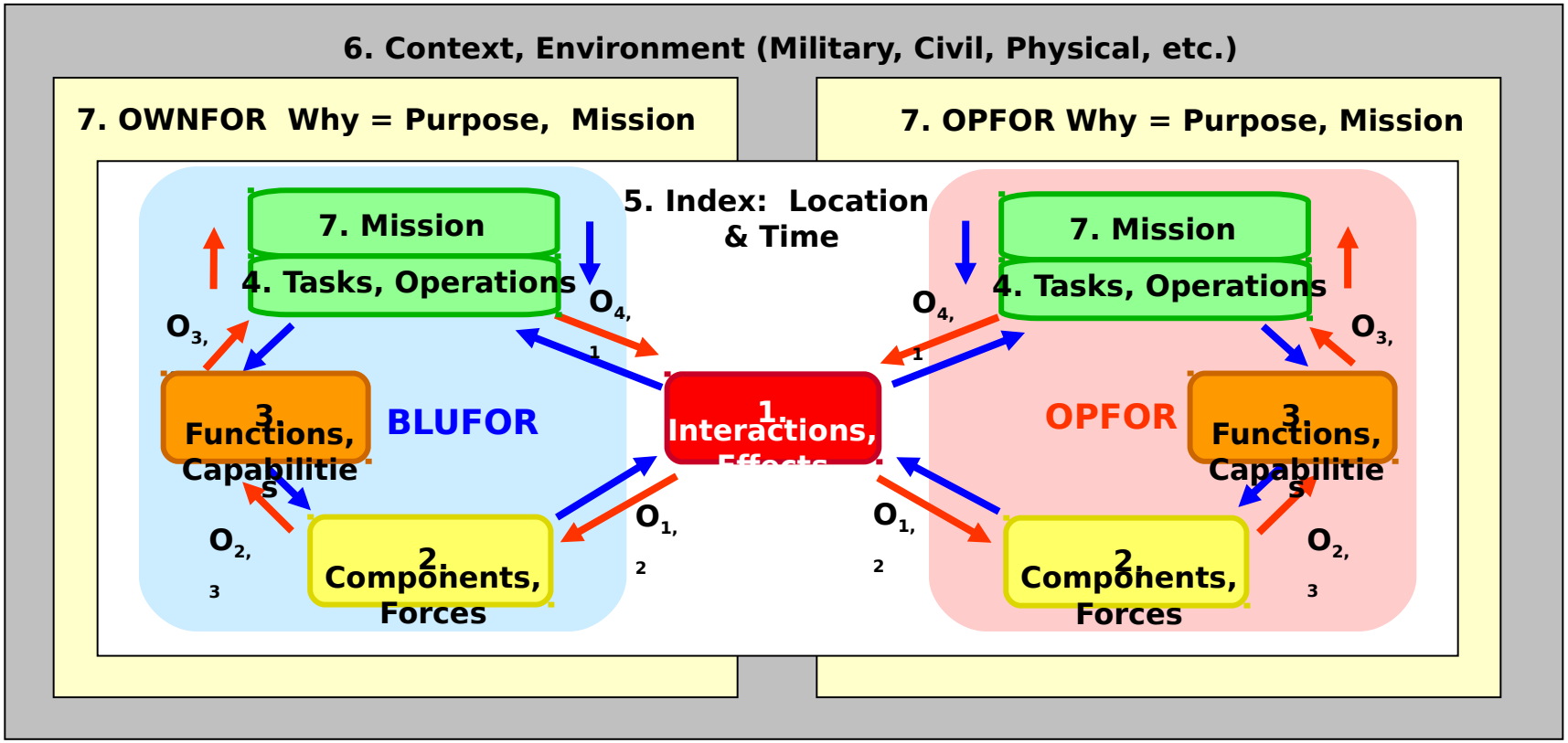



Planning

Employment

**Top-Down, Concurrent Synthesis and Decision Making**

# Missions and Means Framework




Planning

Employment

**Architecture defines how Parts are assembled into Packages**

**Capabilities are relationships between Parts and Packages**

# MMF Application - Situation

**Road to War**

- **Radical elements form new government, seek to force recognition by UN as legitimate government.**
- **Legitimate, pro-Western Government of Orangeland is overthrown by radical elements and forced into exile.**
- **Majority of Orangeland's conventional military forces are loyal to new government. Orangeland invades neighboring country of Blueland.**
- **United States and its coalition partners believe national interests and regional stability are threatened. They take military action to drive Orangeland forces from Blueland; remove rebel government from power; restore legitimate, pro-Western government; stabilize region; and protect U.S. and coalition vital interests.**

**Current Situation**

- **Coalition forces have commenced offensive ground operations in the region to drive Orangeland forces out of Blueland and continue attacking to isolate rebel government leadership inside capital of Orangeland.**

**Mission**

- **CJFLCC intends to isolate rebel government leadership in the capital by defeating majority of conventional forces well outside the capital and preventing them from reinforcing security forces protecting the rebel leadership inside the capital.**

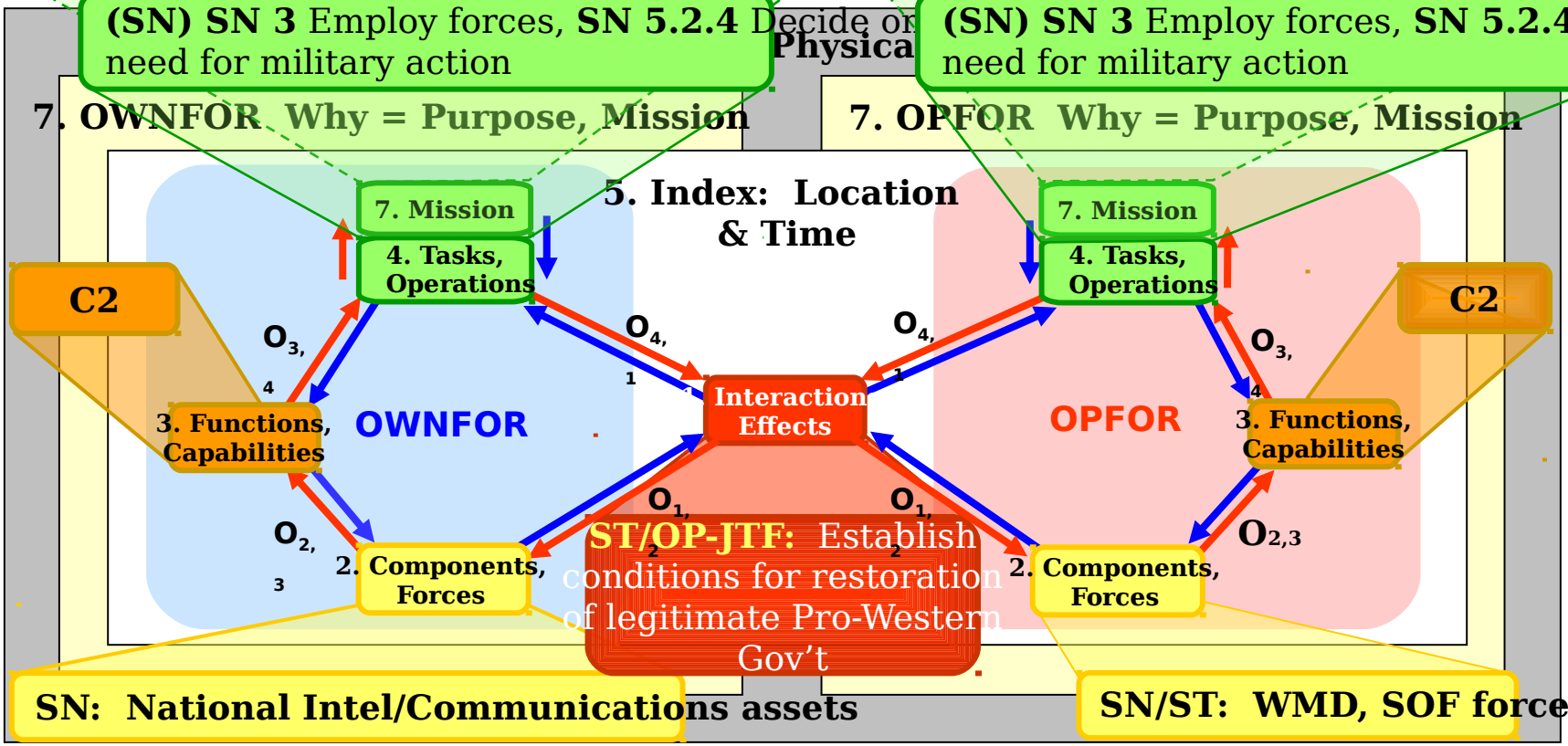
# MMF Layered View:

## SN

**(SN) *4*** Restore legitimate government in order to (SN) *4* Deter use of force in order to *7* Ensure national interests of regime

**(SN) SN 3** Employ forces, **SN 5.2.4** Decide on need for military action

**(SN) SN 3** Employ forces, **SN 5.2.4** Decide need for military action




Synthe
sis
Employm
ent

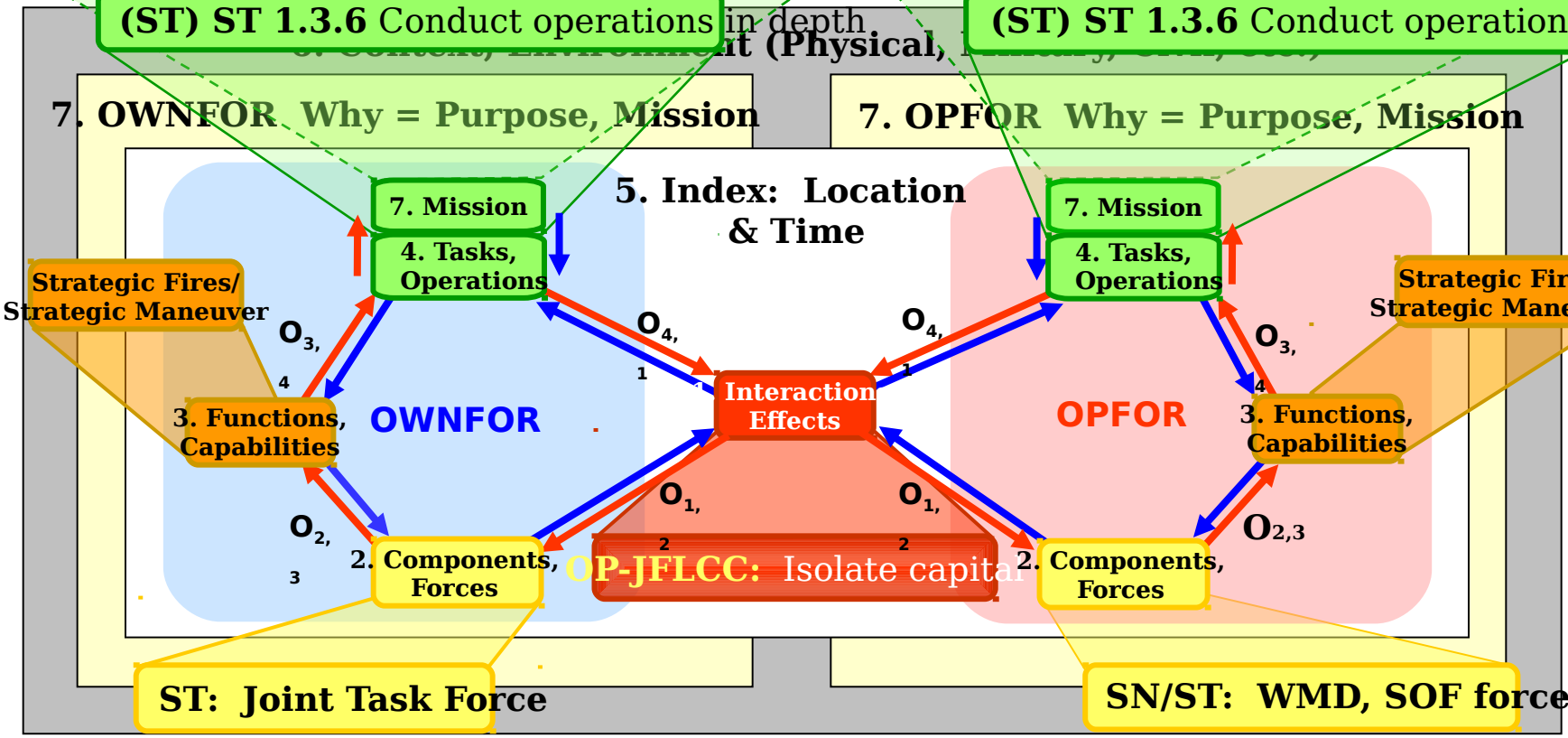
# MMF Layered View: ST

**(ST) *4*** Establish military and civil conditions to 7 Restore legitimate government

**(ST) *4*** Establish military, civil and political con to *7* Deter use of force

**(ST) ST 1.3.6** Conduct operations in depth

**(ST) ST 1.3.6** Conduct operations in dep




Synthesis

Employment

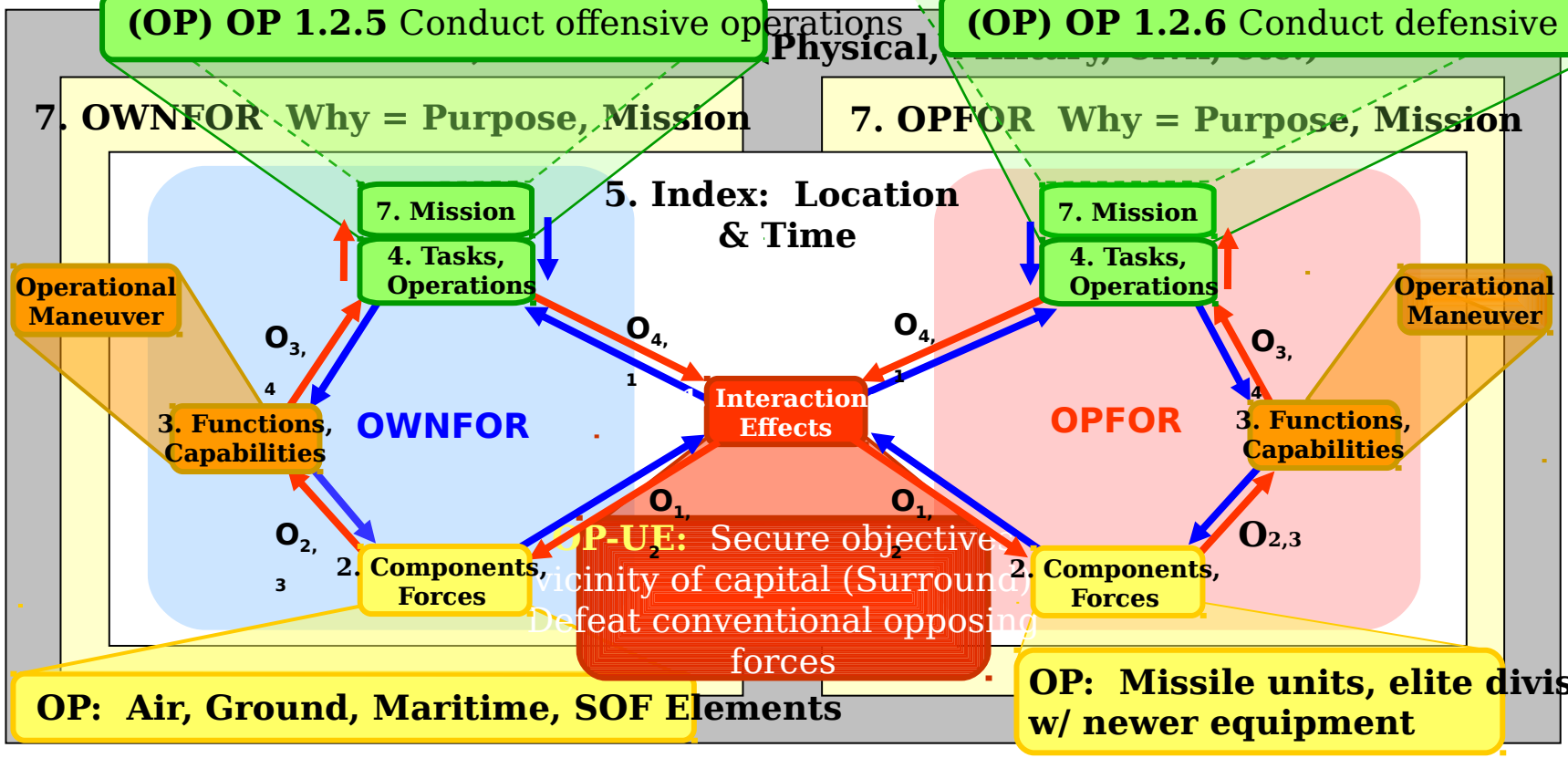
# MMF Layered View: OP

**(OP)** ***4*** Isolate rebel government to 7 Help establish desired conditions

**(OP)** ***4*** Conduct synchronous ops to 7 Help es desired conditions

**(OP) OP 1.2.5** Conduct offensive operations

**(OP) OP 1.2.6** Conduct defensive operatio




Synthe
sis
Employm
ent

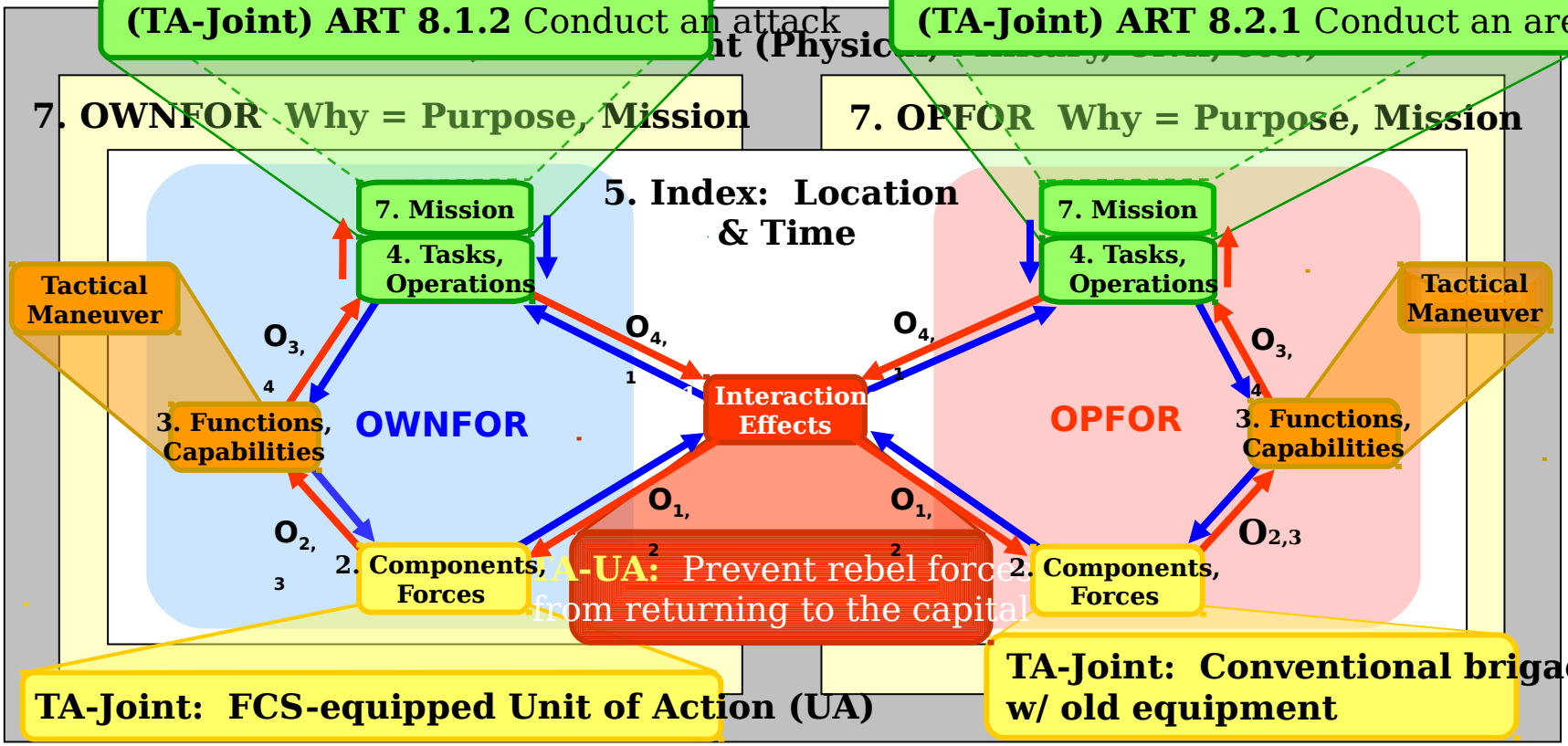
# MMF Layered View: TA-Joint

**(TA-Joint)** ***4*** Prevent reinforcement of capital to
***7*** Help isolate rebel government

**(TA-Joint) ART 8.1.2** Conduct an attack

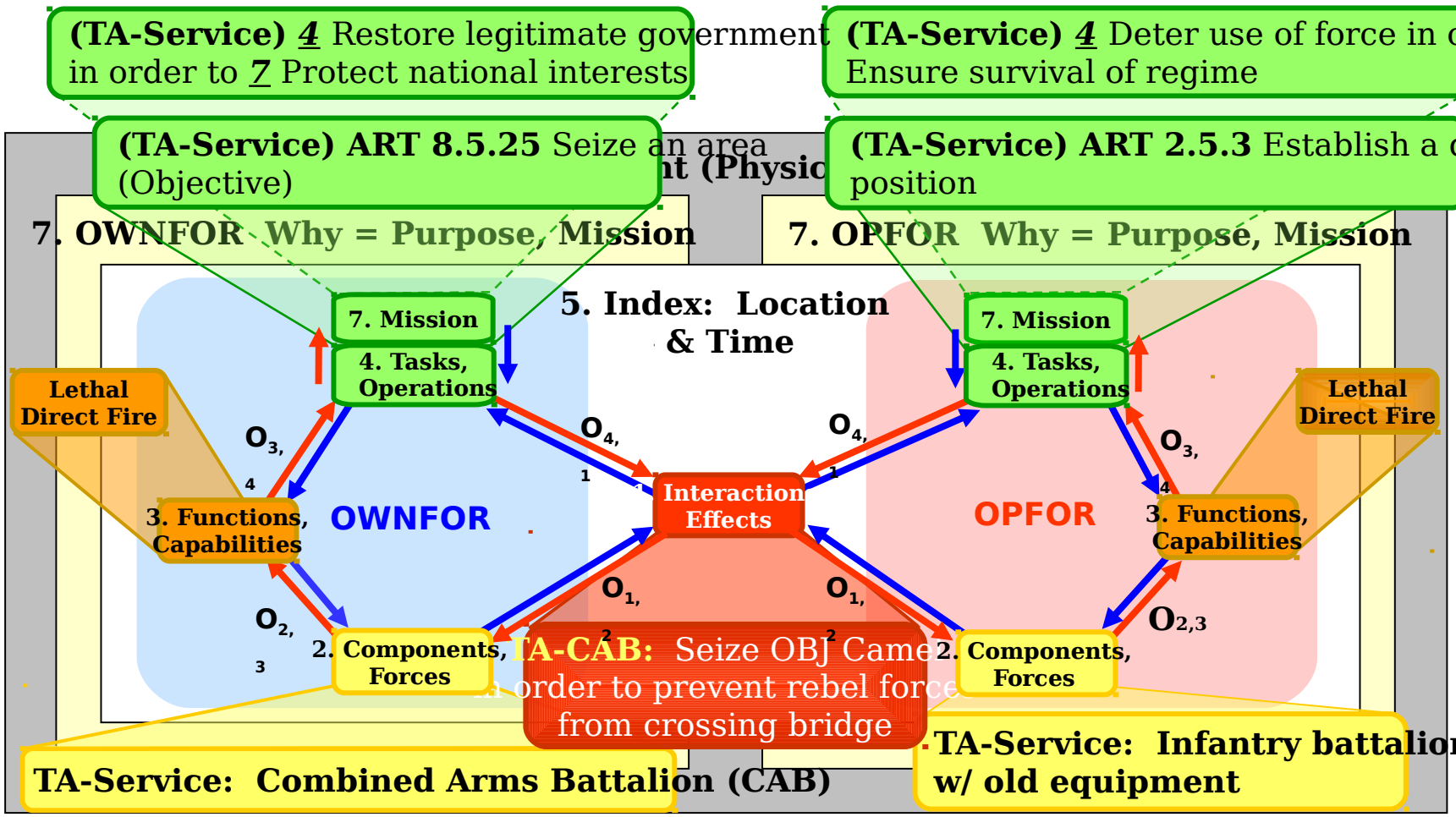
**(TA-Joint)** ***4*** Pre-position forces in key area
***7*** Enable synchronous operations

**(TA-Joint) ART 8.2.1** Conduct an area defe



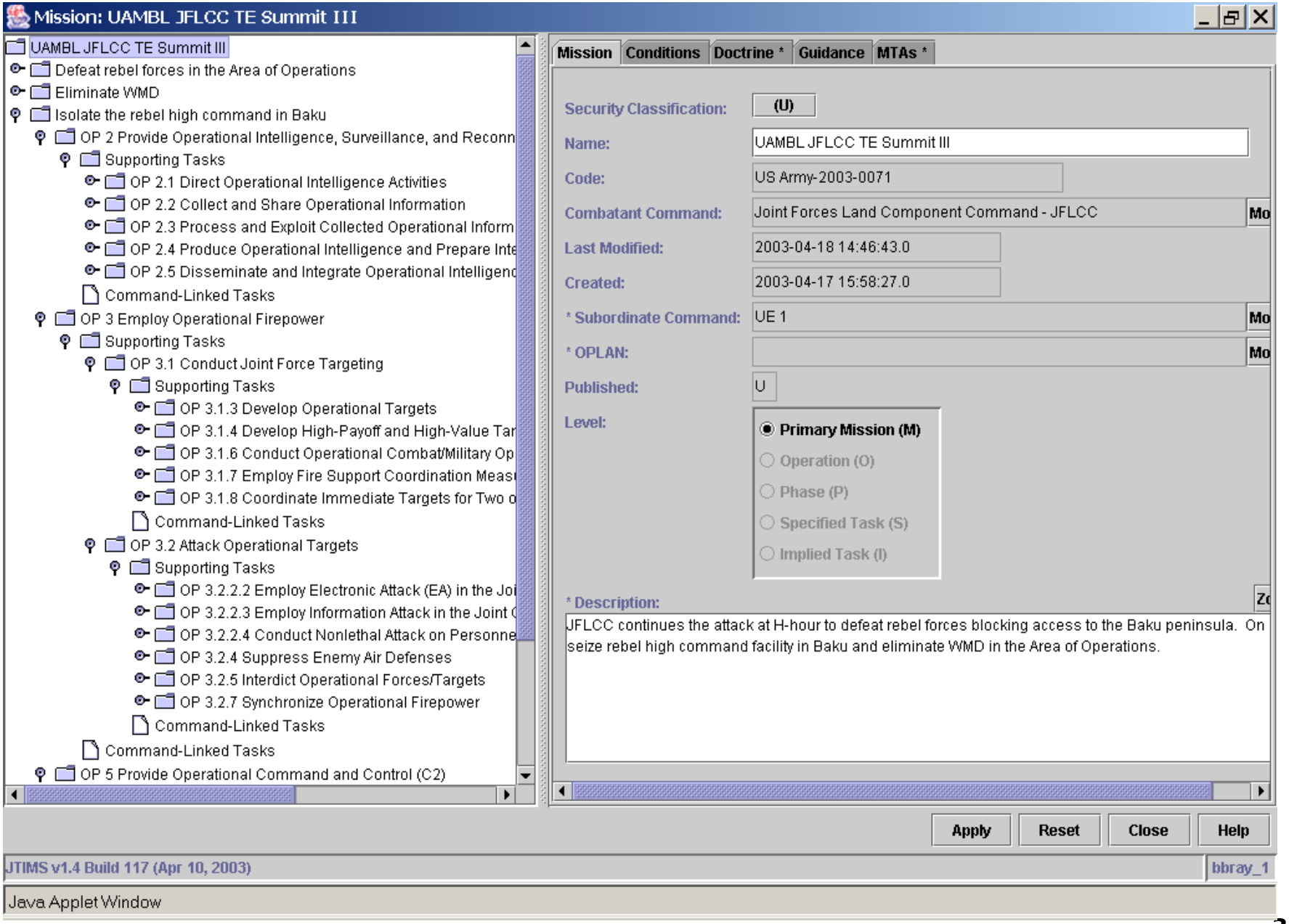

Synthe
sis
Employm
ent

# MMF Layered View: TA-Service


(TA-Service) 4 Restore legitimate government in order to 7 Protect national interests
(TA-Service) 4 Deter use of force in order t
Ensure survival of regime
(TA-Service) ART 8.5.25 Seize an area (Objective)
(TA-Service) ART 2.5.3 Establish a defens position
7. OWNFOR Why = Purpose, Mission
7. OPFOR Why = Purpose, Mission
5. Index: Location & Time
7. Mission
4. Tasks, Operations
Lethal Direct Fire
O3, 4
O4, 1
3. Functions, Capabilities
OWNFOR
Interaction Effects
OPFOR
O1, 2
O2, 3
2. Components, Forces
TA-CAB: Seize OBJ Came
order to prevent rebel force
from crossing bridge
TA-Service: Combined Arms Battalion (CAB)
TA-Service: Infantry battalions w/ old equipment

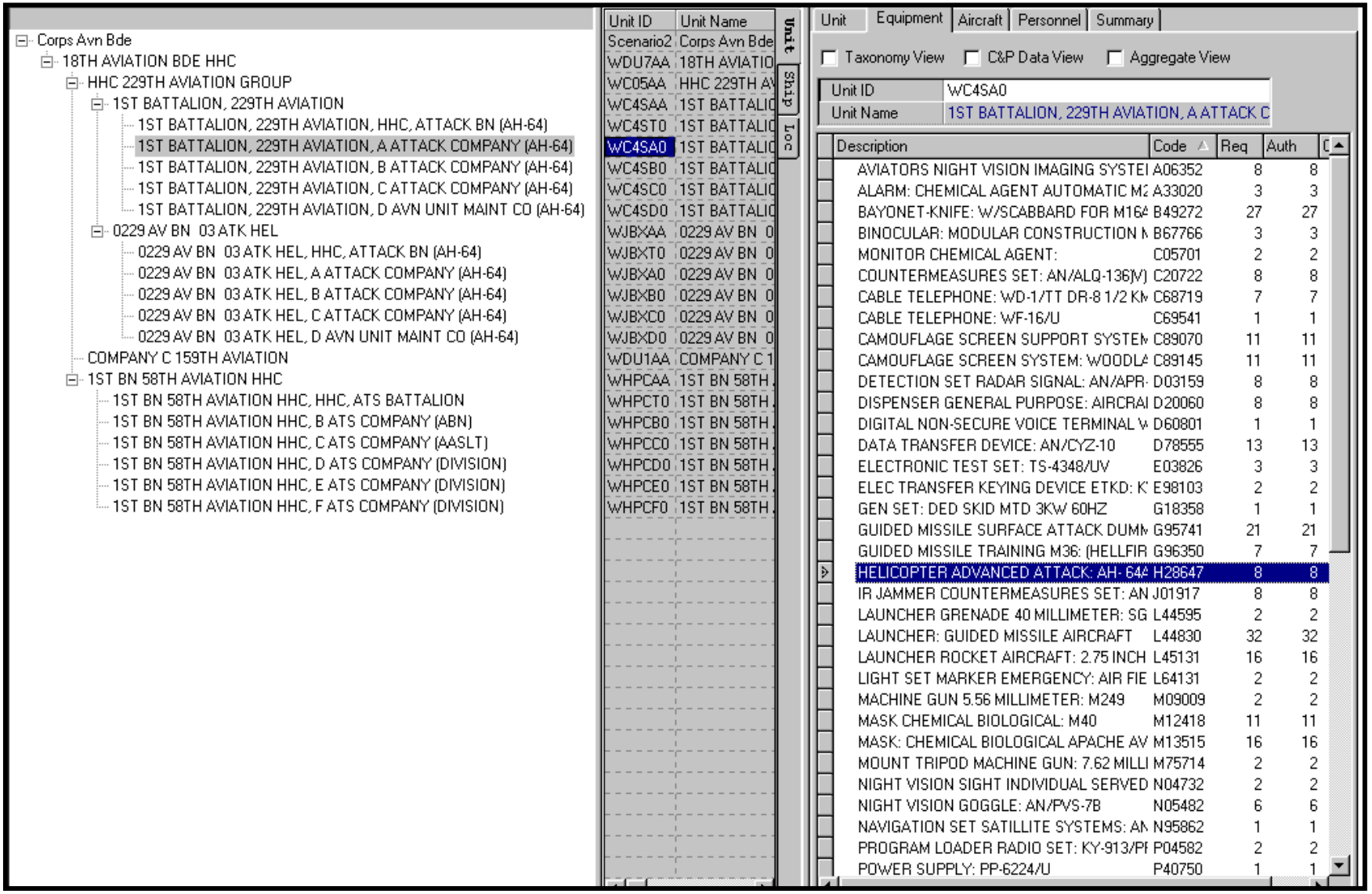
Synthe
sis
Employm
ent

# JTIMS (Operational View)



# UOB DAT Task Organization

## Corps Aviation Brigade


Corps Avn Bde
18TH AVIATION BDE HHC
HHC 229TH AVIATION GROUP
1ST BATTALION, 229TH AVIATION
1ST BATTALION, 229TH AVIATION, HHC, ATTACK BN (AH-64)
1ST BATTALION, 229TH AVIATION, A ATTACK COMPANY (AH-64)
1ST BATTALION, 229TH AVIATION, B ATTACK COMPANY (AH-64)
1ST BATTALION, 229TH AVIATION, C ATTACK COMPANY (AH-64)
1ST BATTALION, 229TH AVIATION, D AVN UNIT MAINT CO (AH-64)
0229 AV BN 03 ATK HEL
0229 AV BN 03 ATK HEL, HHC, ATTACK BN (AH-64)
0229 AV BN 03 ATK HEL, A ATTACK COMPANY (AH-64)
0229 AV BN 03 ATK HEL, B ATTACK COMPANY (AH-64)
0229 AV BN 03 ATK HEL, C ATTACK COMPANY (AH-64)
0229 AV BN 03 ATK HEL, D AVN UNIT MAINT CO (AH-64)
COMPANY C 159TH AVIATION
1ST BN 58TH AVIATION HHC
1ST BN 58TH AVIATION HHC, HHC, ATS BATTALION
1ST BN 58TH AVIATION HHC, B ATS COMPANY (ABN)
1ST BN 58TH AVIATION HHC, C ATS COMPANY (AASLT)
1ST BN 58TH AVIATION HHC, D ATS COMPANY (DIVISION)
1ST BN 58TH AVIATION HHC, E ATS COMPANY (DIVISION)
1ST BN 58TH AVIATION HHC, F ATS COMPANY (DIVISION)
Unit ID
Unit Name
Scenario2
Corps Avn Bde
WDU7AA
18TH AVIATIO
WC05AA
HHC 229TH AV
WC4SAA
1ST BATTALIC
WC4ST0
1ST BATTALIC
WC4SA0
1ST BATTALIC
WC4SB0
1ST BATTALIC
WC4SC0
1ST BATTALIC
WC4SD0
1ST BATTALIC
WJBXAA
0229 AV BN 0
WJBXT0
0229 AV BN 0
WJBXA0
0229 AV BN 0
WJBXB0
0229 AV BN 0
WJBXC0
0229 AV BN 0
WJBXD0
0229 AV BN 0
WDU1AA
COMPANY C 1
WHPCAA
1ST BN 58TH
WHPCT0
1ST BN 58TH
WHPCB0
1ST BN 58TH
WHPCC0
1ST BN 58TH
WHPCD0
1ST BN 58TH
WHPCE0
1ST BN 58TH
WHPCF0
1ST BN 58TH
Unit
Strip
Loc
Unit
Equipment
Aircraft
Personnel
Summary
Taxonomy View
C&P Data View
Aggregate View
Unit ID
WC4SA0
Unit Name
1ST BATTALION, 229TH AVIATION, A ATTACK C
Description
Code
Req
Auth
AVIATORS NIGHT VISION IMAGING SYSTEI A06352 8 8
ALARM: CHEMICAL AGENT AUTOMATIC M2 A33020 3 3
BAYONET-KNIFE: W/SCABBARD FOR M16A B49272 27 27
BINOCULAR: MODULAR CONSTRUCTION N B67766 3 3
MONITOR CHEMICAL AGENT: C05701 2 2
COUNTERMEASURES SET: AN/ALQ-136(V) C20722 8 8
CABLE TELEPHONE: WD-1/TT DR-8 1/2 KM C68719 7 7
CABLE TELEPHONE: WF-16/U C69541 1 1
CAMOUFLAGE SCREEN SUPPORT SYSTEM C89070 11 11
CAMOUFLAGE SCREEN SYSTEM: WOODLA C89145 11 11
DETECTION SET RADAR SIGNAL: AN/APR- D03159 8 8
DISPENSER GENERAL PURPOSE: AIRCRAI D20060 8 8
DIGITAL NON-SECURE VOICE TERMINAL W D60801 1 1
DATA TRANSFER DEVICE: AN/CYZ-10 D78555 13 13
ELECTRONIC TEST SET: TS-4348/UV E03826 3 3
ELEC TRANSFER KEYING DEVICE ETKD: K E98103 2 2
GEN SET: DED SKID MTD 3KW 60HZ G18358 1 1
GUIDED MISSILE SURFACE ATTACK DUMM G95741 21 21
GUIDED MISSILE TRAINING M36: (HELLFIR G96350 7 7
HELICOPTER ADVANCED ATTACK: AH-64A H28647 8 8
IR JAMMER COUNTERMEASURES SET: AN J01917 8 8
LAUNCHER GRENADE 40 MILLIMETER: SG L44595 2 2
LAUNCHER: GUIDED MISSILE AIRCRAFT L44830 32 32
LAUNCHER ROCKET AIRCRAFT: 2.75 INCH L45131 16 16
LIGHT SET MARKER EMERGENCY: AIR FIE L64131 2 2
MACHINE GUN 5.56 MILLIMETER: M249 M09009 2 2
MASK CHEMICAL BIOLOGICAL: M40 M12418 11 11
MASK: CHEMICAL BIOLOGICAL APACHE AV M13515 16 16
MOUNT TRIPOD MACHINE GUN: 7.62 MILLI M75714 2 2
NIGHT VISION SIGHT INDIVIDUAL SERVED N04732 2 2
NIGHT VISION GOGGLE: AN/PVS-7B N05482 6 6
NAVIGATION SET SATILLITE SYSTEMS: AN N95862 1 1
PROGRAM LOADER RADIO SET: KY-913/PI P04582 2 2
POWER SUPPLY: PP-6224/U P40750 1 1

# MMF Application – Key Tasks

**JTF**

1. Restore legitimate government
2. Achieve air superiority
3. Destroy WMD capability
4. Facilitate control of energy centers

**Operational to Tactical: Nested Tasks**

**JFLCC**

1. Secure capital region in Orangeland
2. Secure key oil and gas pipelines and prod facilities
3. Defeat rebel forces

**UE**

1. Attack to defeat rebel forces in zone
2. Conduct vertical maneuver to disrupt rebel forces
3. Secure key facilities

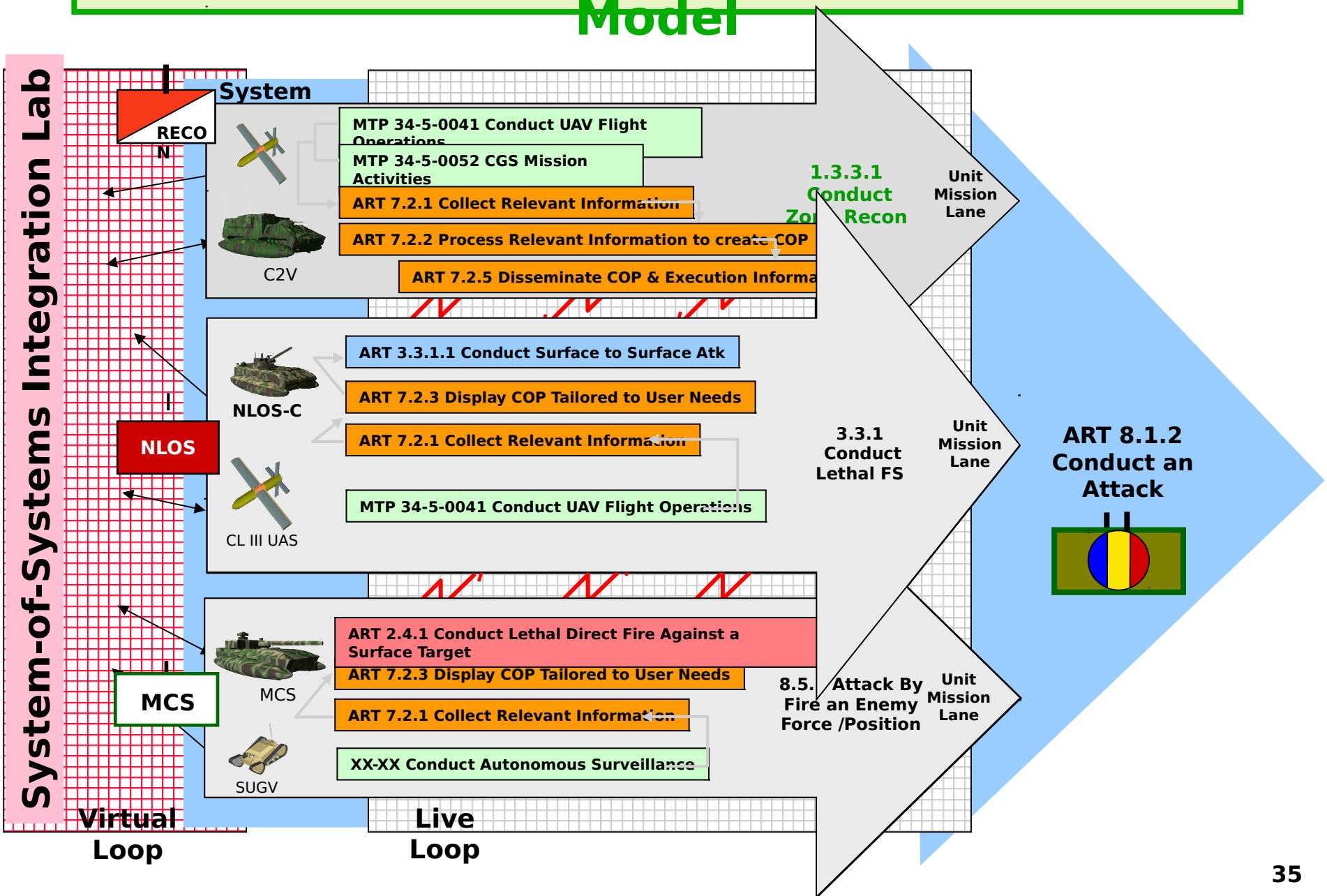
**UA1**

1. Secure key terrain vic OBJ CAMEL
2. Block enemy reinforcements from reaching capital

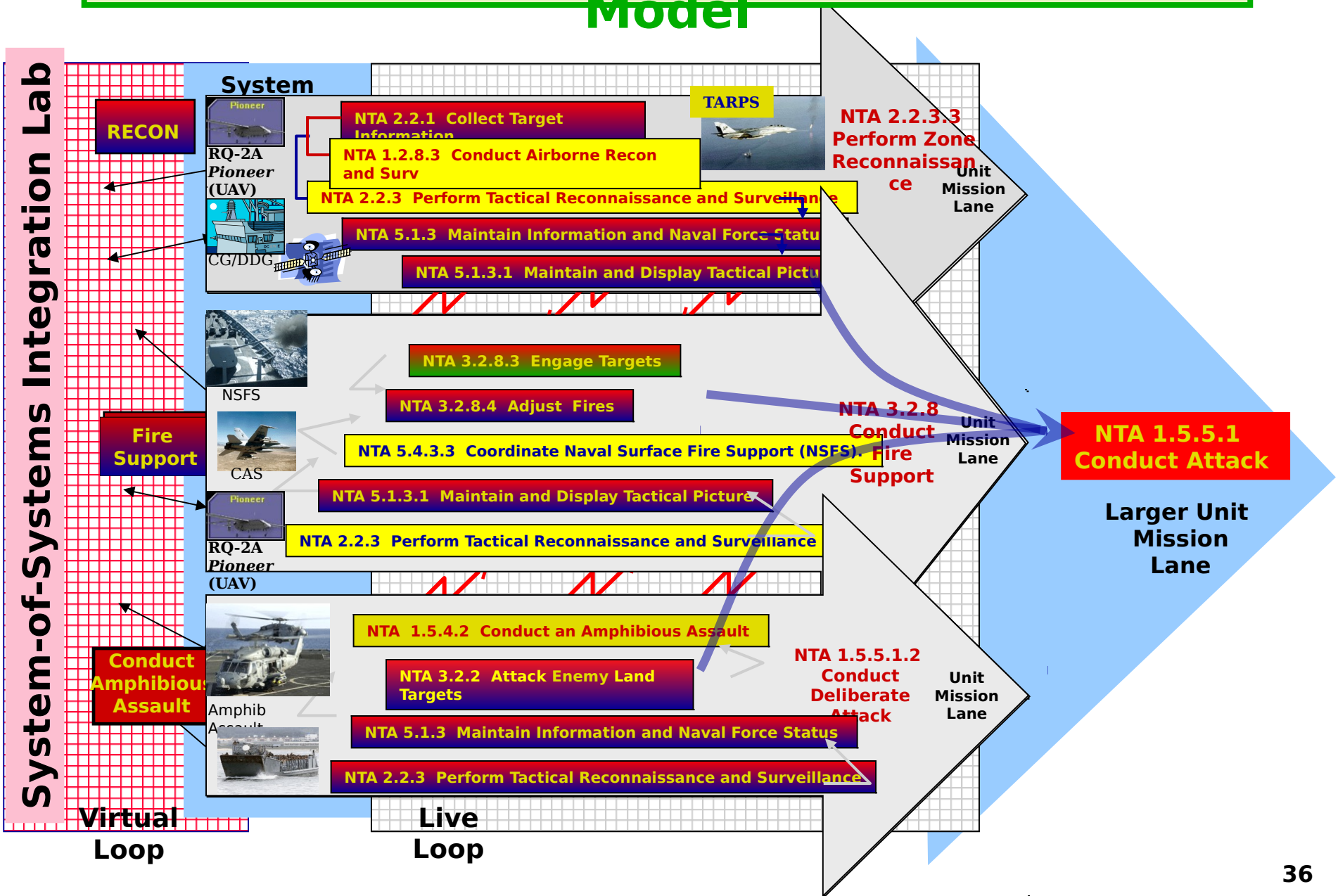
**CAB2**

1. Secure OBJ CAMEL in order to facilitate UA2 attack on OBJ BAT
2. Attack to defeat rebel forces attempting to return to capital

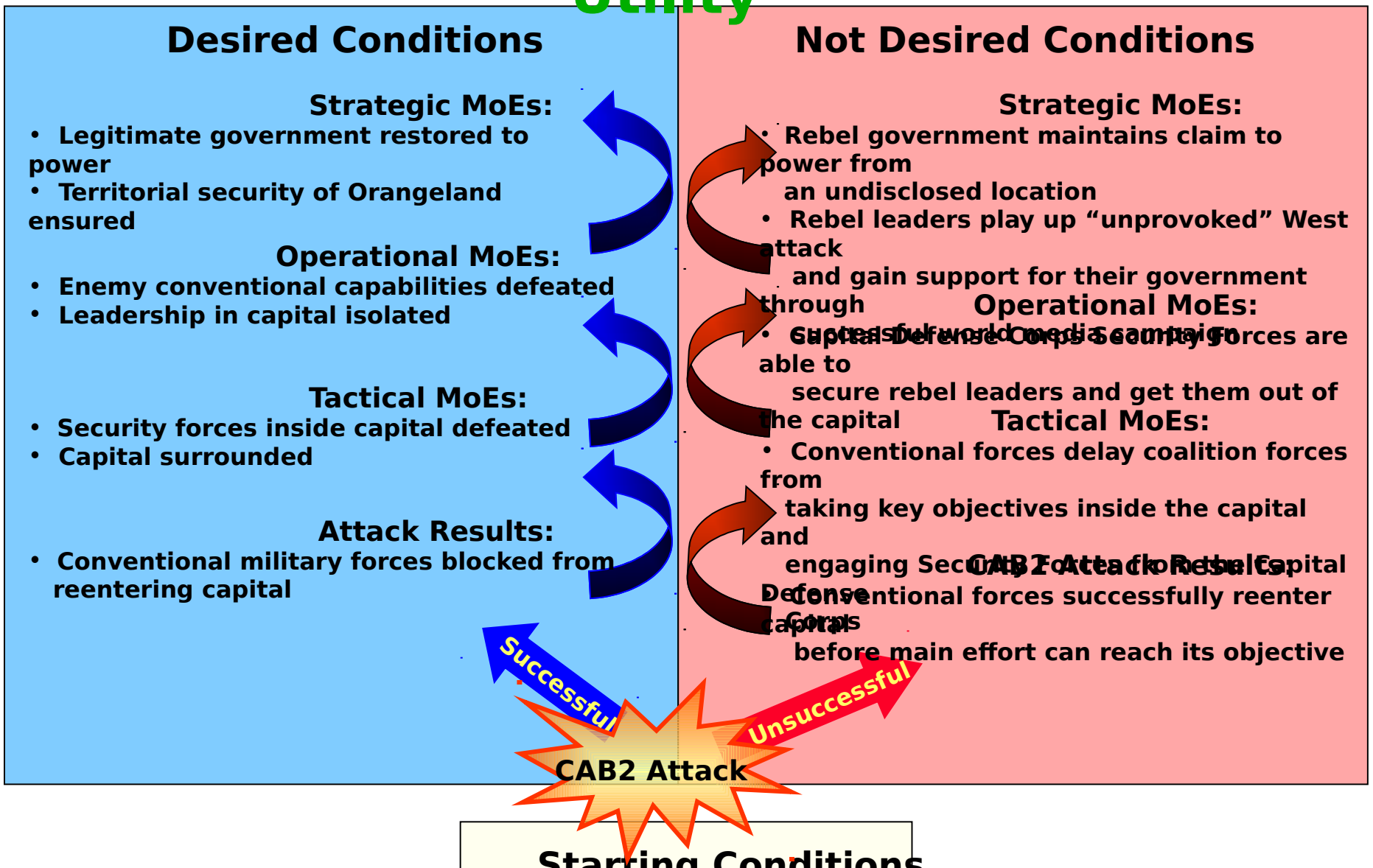
# Sample Army Task Set Applied to OT Model


System-of-Systems Integration Lab
RECON
System
MTP 34-5-0041 Conduct UAV Flight Operations
MTP 34-5-0052 CGS Mission Activities
ART 7.2.1 Collect Relevant Information
ART 7.2.2 Process Relevant Information to create COP
ART 7.2.5 Disseminate COP & Execution Informa
C2V
1.3.3.1 Conduct Zo Recon
Unit Mission Lane
NLOS
NLOS-C
ART 3.3.1.1 Conduct Surface to Surface Atk
ART 7.2.3 Display COP Tailored to User Needs
ART 7.2.1 Collect Relevant Information
MTP 34-5-0041 Conduct UAV Flight Operations
CL III UAS
3.3.1 Conduct Lethal FS
Unit Mission Lane
ART 8.1.2 Conduct an Attack
MCS
ART 2.4.1 Conduct Lethal Direct Fire Against a Surface Target
ART 7.2.3 Display COP Tailored to User Needs
ART 7.2.1 Collect Relevant Information
MCS
8.5. Attack By Fire an Enemy Force /Position
Unit Mission Lane
XX-XX Conduct Autonomous Surveillance
SUGV
Virtual Loop
Live Loop

# Sample Navy Task Set Applied to OT Model


System-of-Systems Integration Lab
System
RECON
RQ-2A Pioneer (UAV)
CG/DDG
NTA 2.2.1 Collect Target Information
NTA 1.2.8.3 Conduct Airborne Recon and Surv
NTA 2.2.3 Perform Tactical Reconnaissance and Surveillance
NTA 5.1.3 Maintain Information and Naval Force Statu
NTA 5.1.3.1 Maintain and Display Tactical Pictu
TARPS
NTA 2.2.3.3 Perform Zone Reconnaissance
Unit Mission Lane
NSFS
Fire Support
CAS
NTA 3.2.8.3 Engage Targets
NTA 3.2.8.4 Adjust Fires
NTA 5.4.3.3 Coordinate Naval Surface Fire Support (NSFS)
NTA 3.2.8 Conduct Fire Support
Unit Mission Lane
NTA 5.1.3.1 Maintain and Display Tactical Picture
NTA 2.2.3 Perform Tactical Reconnaissance and Surveillance
RQ-2A Pioneer (UAV)
NTA 1.5.5.1 Conduct Attack
Larger Unit Mission Lane
Conduct Amphibious Assault
Amphib Assault
NTA 1.5.4.2 Conduct an Amphibious Assault
NTA 3.2.2 Attack Enemy Land Targets
NTA 1.5.5.1.2 Conduct Deliberate Attack
Unit Mission Lane
NTA 5.1.3 Maintain Information and Naval Force Status
NTA 2.2.3 Perform Tactical Reconnaissance and Surveillance
Virtual Loop
Live Loop

# Relating Effects to Utility


Desired Conditions
Strategic MoEs:
• Legitimate government restored to power
• Territorial security of Orangeland ensured
Operational MoEs:
• Enemy conventional capabilities defeated
• Leadership in capital isolated
Tactical MoEs:
• Security forces inside capital defeated
• Capital surrounded
Attack Results:
• Conventional military forces blocked from reentering capital
Not Desired Conditions
Strategic MoEs:
• Rebel government maintains claim to power from an undisclosed location
• Rebel leaders play up "unprovoked" West attack and gain support for their government through successful world media campaign
Operational MoEs:
• Capital Defense Corps security forces are able to secure rebel leaders and get them out of the capital
Tactical MoEs:
• Conventional forces delay coalition forces from taking key objectives inside the capital and engaging Security Forces to Retain Capital Defense Corps
CAB2 Attack Results:
• Conventional forces successfully reenter capital before main effort can reach its objective
Successful
Unsuccessful
CAB2 Attack
Starting Conditions

# Missions and Means Framework

**Purpose:** Provide a methodology for explicitly specifying the military mission and quantitatively evaluating the mission utility of alternative warfighting Doctrine, Organization, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) services and products.

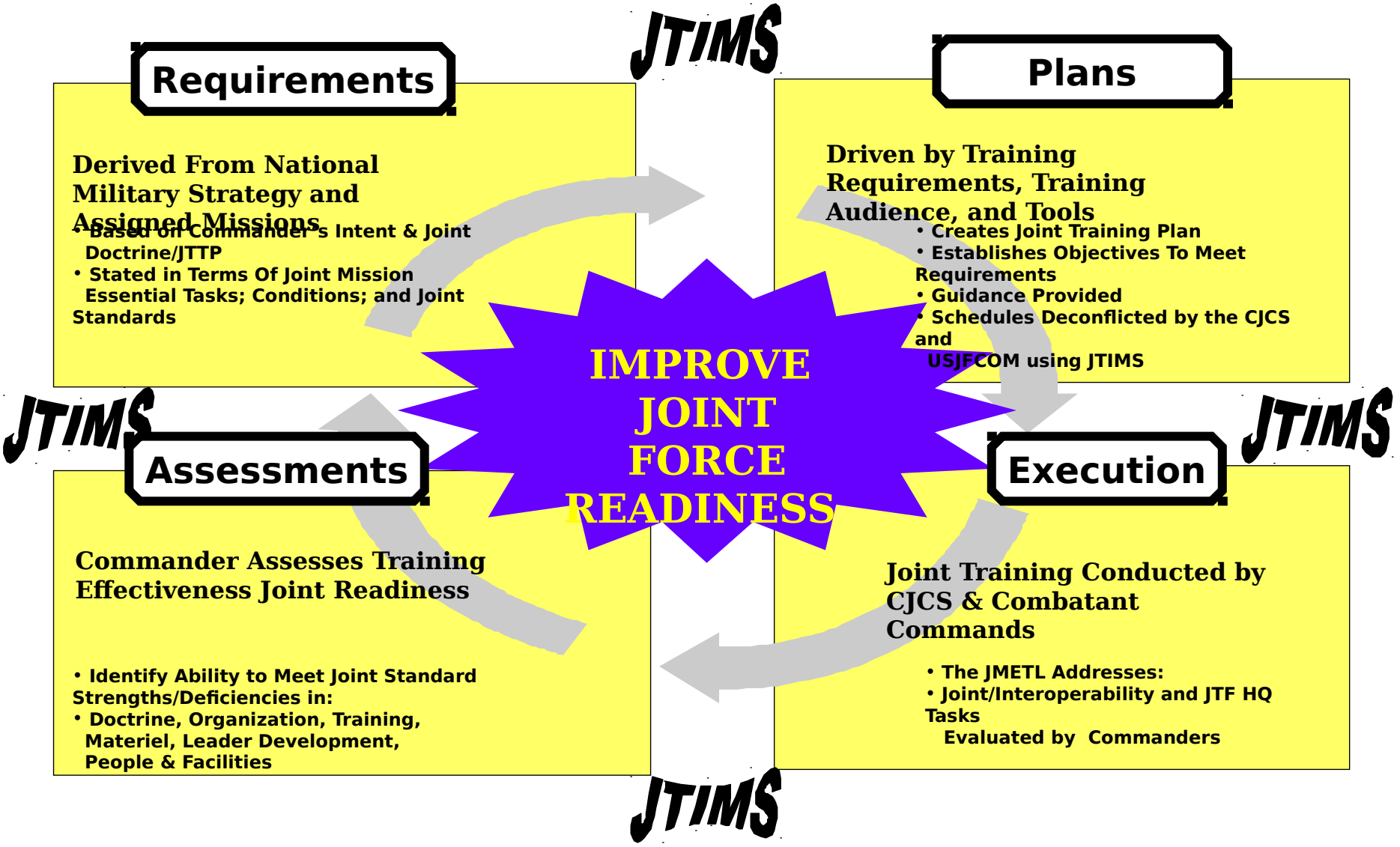
**Objective:** Provide a disciplined procedure to explicitly specify the mission, allocate means, and assess mission accomplishment by:

- Unifying the warfighter, engineer, and comptroller understanding of missions and means.
- Accounting for traditional testing and evaluation factors and traditional warfighter expertise factors that constitute mission success.
- Being sufficiently credible, timely, and affordable to make hard decisions that stay made.
- Being consistent, concise, repeatable, and scalable.
- Providing a disciplined process to implement the Defense

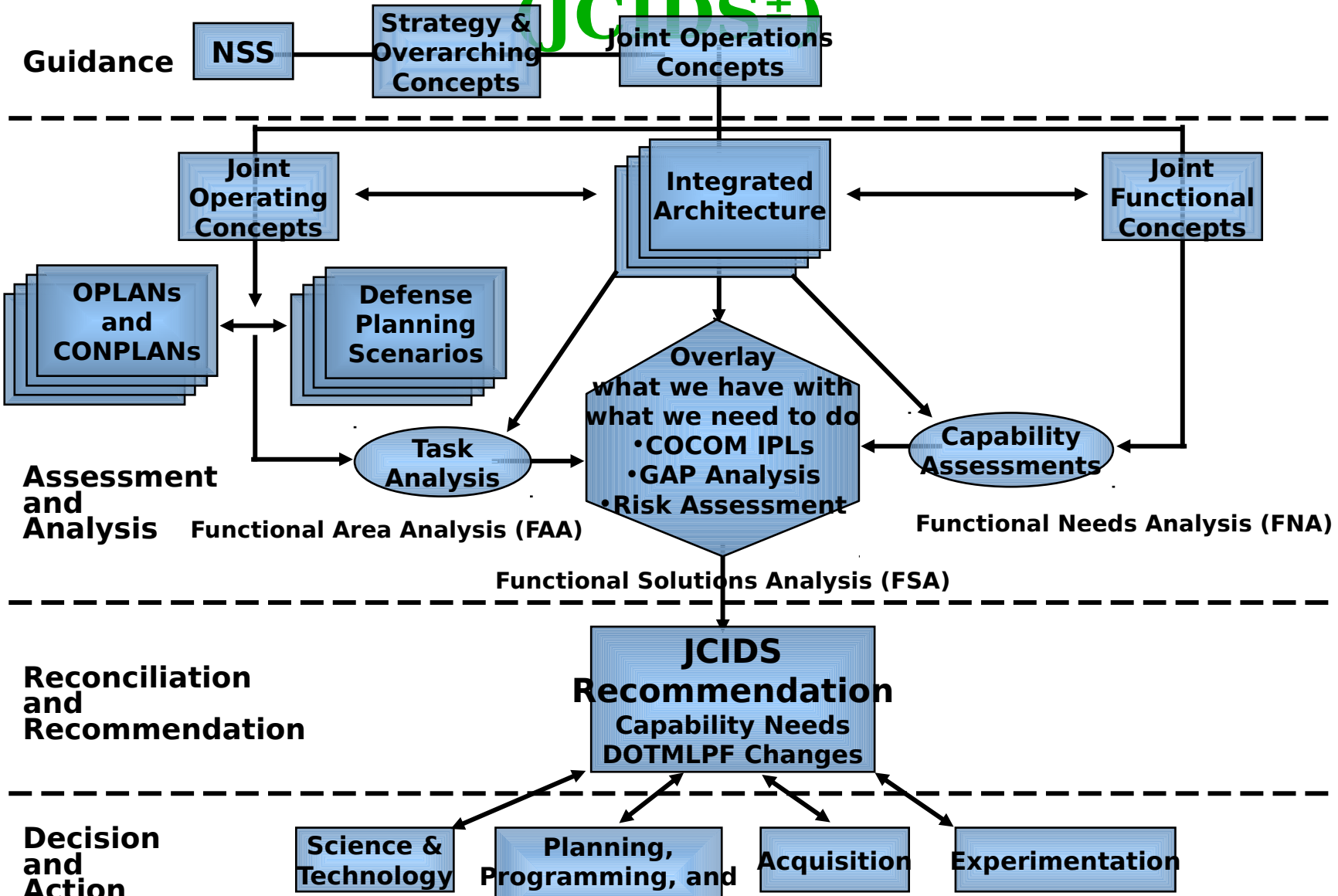
# Agenda

- Introduction
- ACSIS Example
- Missions & Means Framework
- Transformation

# Joint Training System


JTIMS
Requirements
Derived From National Military Strategy and Assigned Missions
• Based on Commander's Intent & Joint Doctrine/JTTP
• Stated in Terms Of Joint Mission Essential Tasks; Conditions; and Joint Standards
JTIMS
Plans
Driven by Training Requirements, Training Audience, and Tools
• Creates Joint Training Plan
• Establishes Objectives To Meet Requirements
• Guidance Provided
• Schedules Deconflicted by the CJCS and USJFCOM using JTIMS
IMPROVE JOINT FORCE READINESS
JTIMS
Assessments
Commander Assesses Training Effectiveness Joint Readiness
• Identify Ability to Meet Joint Standard Strengths/Deficiencies in:
• Doctrine, Organization, Training, Materiel, Leader Development, People & Facilities
JTIMS
Execution
Joint Training Conducted by CJCS & Combatant Commands
• The JMETL Addresses:
• Joint/Interoperability and JTF HQ Tasks Evaluated by Commanders
JTIMS

# CJCSI 3170§ (JCIDS±)




§Chairman of the Joint Chiefs of Staff

±Joint Capabilities Integration and Development System

Warfighter **Visualizes** the operation and capabilities required to accomplish mission.

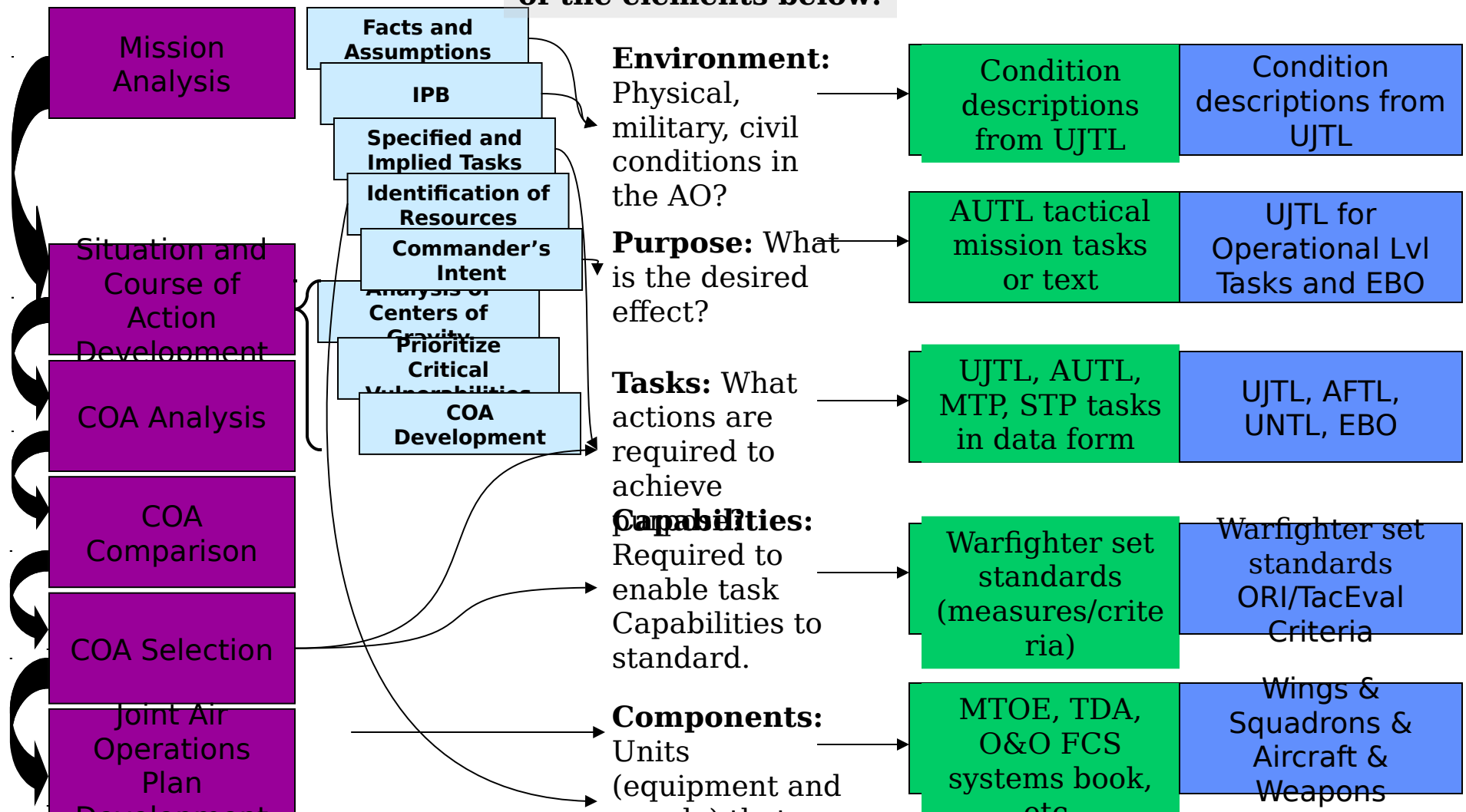
**Mission Received**

MMF enables warfighter to **Describe** vision using framework to ID key elements and tools to capture elements in data form.

**Warfighter/Rep.**

**MMF prompts capture of the elements below:**

**Analyst/Engineer**


Mission Analysis
Situation and Course of Action Development
COA Analysis
COA Comparison
COA Selection
Joint Air Operations Plan Development
Facts and Assumptions
IPB
Specified and Implied Tasks
Identification of Resources
Commander's Intent
Centers of Gravity
Prioritize Critical
COA Development
Environment: Physical, military, civil conditions in the AO?
Purpose: What is the desired effect?
Tasks: What actions are required to achieve
Capabilities: Required to enable task Capabilities to standard.
Components: Units (equipment and people) that have required
Condition descriptions from UJTL
Condition descriptions from UJTL
AUTL tactical mission tasks or text
UJTL for Operational Lvl Tasks and EBO
UJTL, AUTL, MTP, STP tasks in data form
UJTL, AFTL, UNTL, EBO
Warfighter set standards (measures/criteria)
Warfighter set standards ORI/TacEval Criteria
MTOE, TDA, O&O FCS systems book, etc.
Wings & Squadrons & Aircraft & Weapons

Warfighter **Visualizes** the operation and capabilities required to accomplish mission.

**Mission Received**

MMF enables warfighter to **Describe** vision using framework to ID key elements and tools to capture elements in data form.

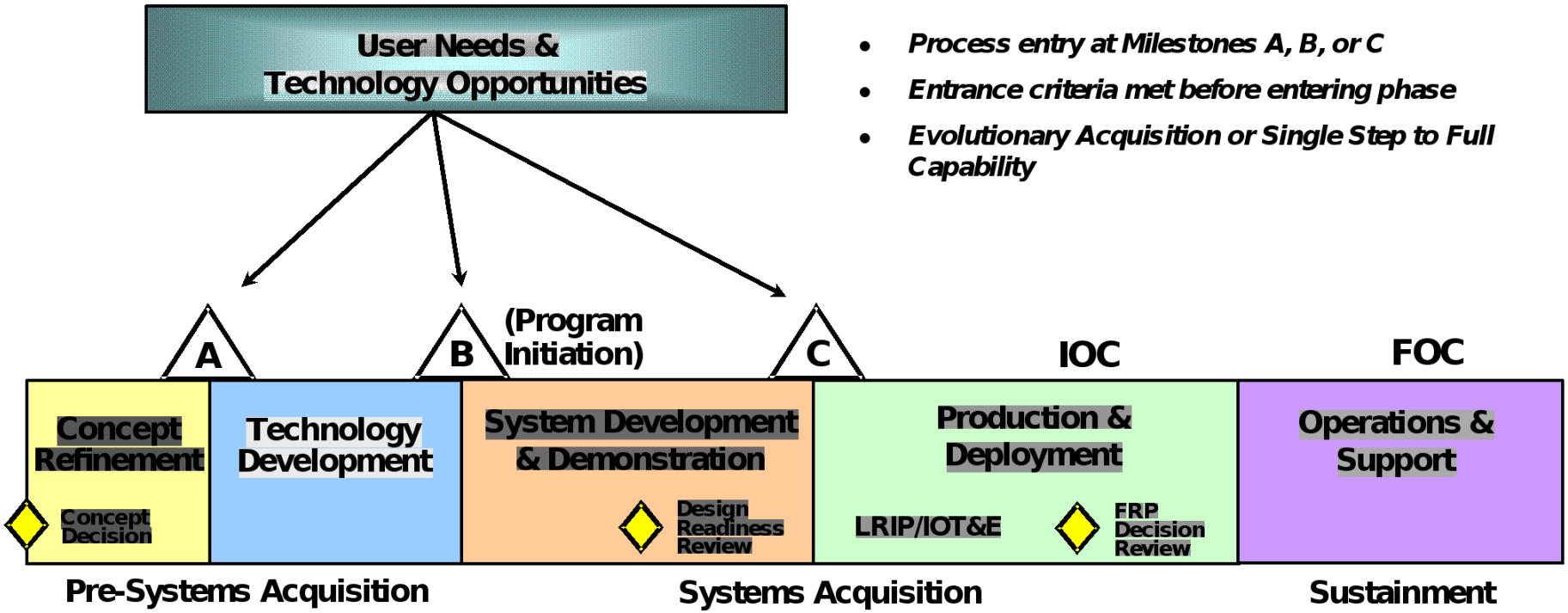
**MMF prompts capture of the elements below:**

**Warfighter/Rep.**

**Analyst/Engineer**

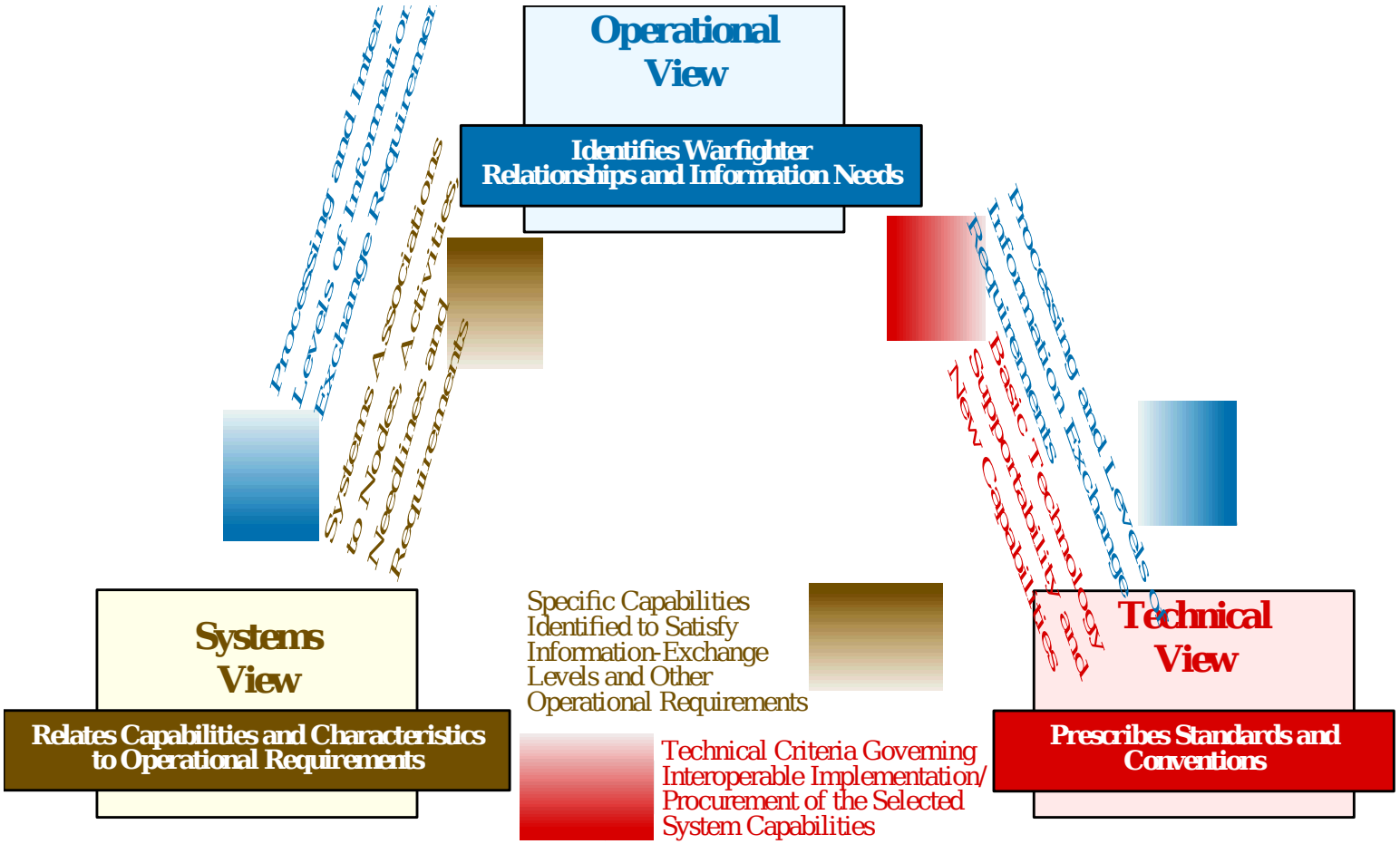
| | | | | | |
|---|---|---|---|---|---|
| IPB/Estimat Process | Combat Assessment | **Environment:** Physical, military, civil conditions in the AO? | Condition descriptions from UJTL | Condition descriptions from UJTL |
| Commander Intent | JFC Guidance | **Purpose:** What is the desired effect? | AUTL tactical mission tasks or text | UJTL for Operational Lvl Tasks |
| Specified, Implied, Essential tasks | Target Development | **Tasks:** What actions are required to achieve [illegible]? | UJTL, AUTL, MTP, STP tasks in data form | UJTL, AFTL, UNTL, EBO |
| COA analys Wargaming process | Weaponeering Process | **Capabilities:** Required to enable task Capabilities to standard. | Warfighter set standards (measures/crite ria) | Aircraft Tech Orders and JMEM |
| Task Organizatio & Request f higher support | Master Air Attack Plan & ATO Production | **Components:** Units (equipment and people) that have required | MTOE, TDA, O&O FCS systems book, etc. | Wings & Squadrons & Aircraft & Weapons |

# DoD 5000.2

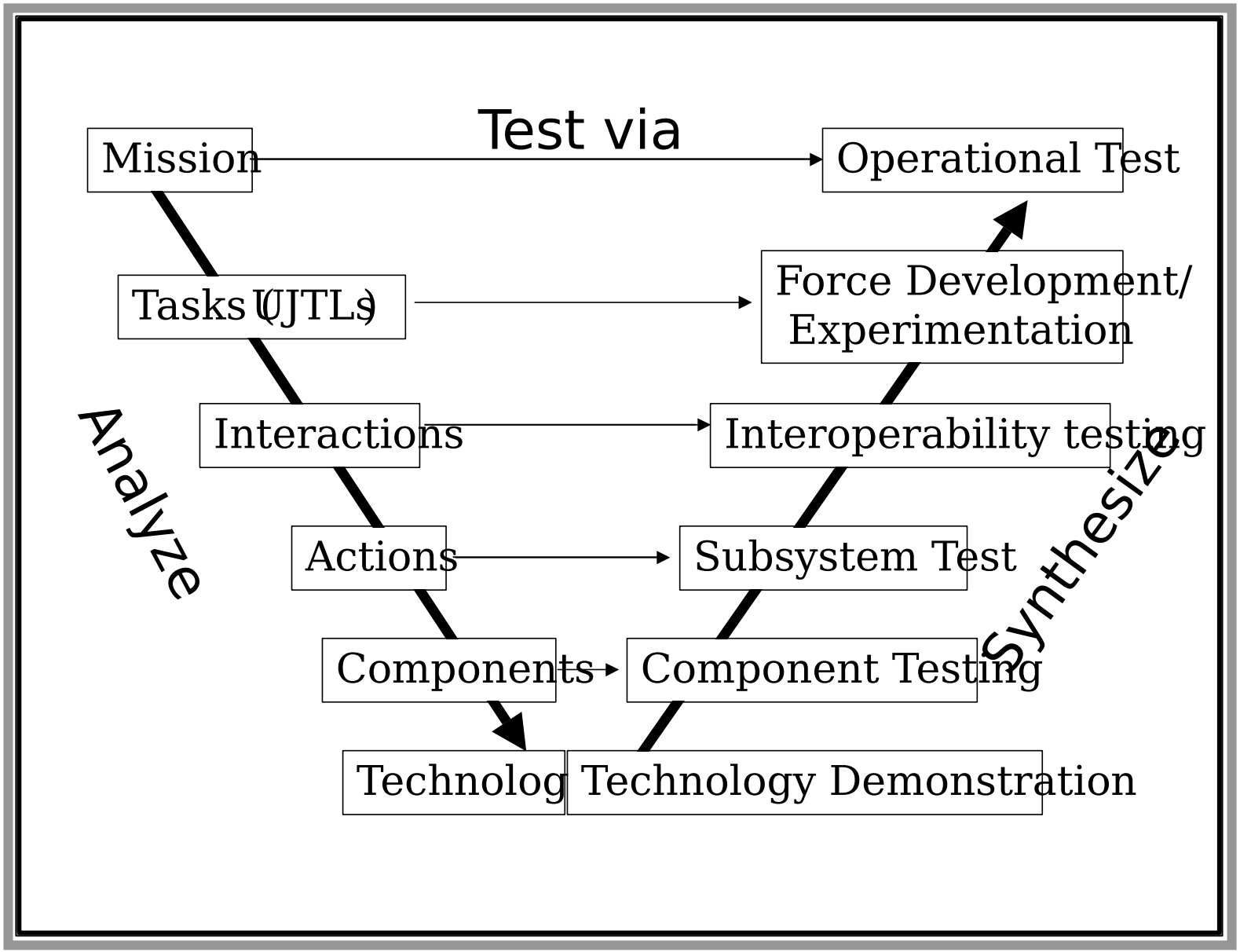



- *Process entry at Milestones A, B, or C*
- *Entrance criteria met before entering phase*
- *Evolutionary Acquisition or Single Step to Full Capability*

# DoD Architecture Framework


Operational View
Identifies Warfighter Relationships and Information Needs
Processing and Interoperability Levels
Levels of Information Exchange
Exchange Requirements
Systems Associations to Nodes, Activities, Needlines and Requirements
Processing and Levels of Information Exchange
Information Exchange Requirements
Basic Technology Supportability and New Capabilities
Systems View
Relates Capabilities and Characteristics to Operational Requirements
Specific Capabilities Identified to Satisfy Information-Exchange Levels and Other Operational Requirements
Technical View
Prescribes Standards and Conventions
Technical Criteria Governing Interoperable Implementation/ Procurement of the Selected System Capabilities

# OT&E V-Diagram



# FCS Evaluation Strategy